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Original Articles

INCOMPLETE MYXEDEMA (HYPOTHYROIDEA).

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In recent medical literature frequent reference is made to irregular or atypical forms of thyroid disease, the so-called "*formes fruste*" of French authorities. Discussions on this interesting subject have hitherto been mainly confined to that aspect of thyroid disease which is constituted by morbid hyperfunction of the gland; so-called "incomplete Graves' disease" or "hyperthyroidea."

The object of this communication is to draw attention to a condition of early thyroid disease characterized by morbid hypofunction or inzufficiency of the gland secretion, the direct antithesis of hyperthyroidea and which may be designated "hypothyroidea." This is an aspect of thyroid perversion which is still less perfectly understood than hyperthyroidea.

Clinical enlightenment is much needed in this direction as it seems probable that the condition is by no means infrequent although usually overlooked or misinterpreted. These cases are probably early or incipient myxedema; *myxœdema fruste*, "incomplete myxedema." They differ from myxedema not in kind but merely in degree. The symptoms are not yet sufficiently pronounced or typical to be recognized easily and consequently they are apt to be attributed to some other cause or to be overlooked altogether. The symptoms are the same as in fully developed myxedema only less intense and not typically grouped. They disappear under thyroid feeding as does the fully-developed disease.

CHRONIC ATROPHIC THYROIDITIS.

Myxedema is not a proper name for that disease inasmuch as myxoid or solid edema is merely a symptom of an underlying atrophic thyroiditis. Murray insists that there is no more warrant for calling a thyroid cirrhosis "myxedema" than there would be for similar use of the term "dropsy" to designate Bright's disease, or "ascites" to characterize hepatic cirrhosis.

What is known in clinical medicine as myxedema is chronic atrophic thyroiditis; a cirrhosis of the thyroid gland resulting in more or less complete destruction of its secreting structure. It is usually marked by shrinking of the thyroid so that the gland can not be palpated and even is identified with difficulty at autopsy. It is not essential to the development of the disease that the gland undergo reduction in size. In rare cases the gland may even be enlarged but histologically it will be found that its true secreting structure has been destroyed by colloid degeneration. Goitrous cretinism is an example of enlargement of the thyroid with loss of function. Paradoxical coexistence of myxedema and Graves' disease in the same subject probably constitutes another instance in point.

We have been taught to regard myxedema as a disease possessing marked and characteristic symptoms and as with other diseases having cardinal symptoms this has placed us off guard when we come in contact with imperfectly developed examples. Moreover, myxedema in its full development is not a frequent disease in America and our very unfamiliarity with it renders us indifferent to the many transitional forms which undoubtedly must occur.

Chronic atrophic lesions no matter what gland or structure is involved are invariably slow in their development and progress. Witness the gradual evolution of contracting kidney and hepatic cirrhosis. There is no apparent reason why we should constitute atrophic thyroiditis an exception to this rule. Myxedema does not spring into existence fully developed, but follows the rule of slow development. At what point in its progress symptoms of thyroid insufficiency appear it would be difficult to say, but it is probable that they exist for a long period before the cardinal symptoms of fully developed myxedema become manifest and that we fail to interpret them is no proof to the contrary but merely evidence of our inability to appreciate their true significance.

DIAGNOSIS.

The diagnosis of a well marked, fully developed case of myxedema is readily made owing to the striking character of the symptoms. The appearance of the patient is so peculiar that the disease can be recognized at a glance. It is quite otherwise when the disease is encountered in its early stages or in atypical form. Slight evidences of the condition may readily be overlooked. The profound nutritional changes, which are so striking in cases of more complete development, are absent, or present only in modified degree. Most of the cases of hypothyroidea are encountered in woman at, or approaching, the climacteric and the symptoms are usually ascribed to the menopause. The predominance of myxedematous states in the female is well attested by statistics, the ratio being 7 to 1. This undoubtedly is due in great measure to the repeated hyperfunction and irritation of the thyroid resulting from the vicissitudes of woman's reproductive life.

ETIOLOGY.

A history of hyperthyroidea in earlier life is not without value from the etiologic standpoint. Hun and Prudden point out that the great majority of women who suffer from myxedema have borne children and only a small proportion are unmarried. This may point to secondary atrophy following puerperal hyperthyroidea. In no other way can the great disproportion in fre-

quency between the two sexes be explained than by interpreting many of the cases in the female as due to secondary atrophy induced by the thyroid hyperfunction of pregnancy and lactation.

A few cases both of the fully developed and modified forms of myxedema have been reported in which the apparent starting point was an acute infection, as in a case presently to be reported (Case 1). It is very doubtful whether such cases are true instances of postinfective myxedema although such a possibility can not be denied. It is more probable that the disease had previously existed in a latent form and that the acute infective toxemia provoked an exacerbation. In my own case there exists distinct evidence pointing to previous latent hypothyroidea. Hypothyroidea and myxedema may develop following Graves' disease, sometimes years afterward. Glandular hyperemia and hyperfunction have here passed over into a state of secondary atrophy with hypofunction. Case 2 constitutes a striking example of this transition.

SYMPTOMATOLOGY.

The symptoms which may be present in cases of incomplete myxedema are neither very definite nor characteristic, but taken as a whole they form a symptom group which, to say the least, is very suggestive. Some of these subjects have for years had slight indications of impaired nutrition such as transient edemas, bagging of the eyelids, dry scaly conditions of the skin, thin hair, joint pains, muscular pains and aches, neuralgias, paresthesias, etc. Their chief complaint is often a great susceptibility to cold so that they become chilled on the slightest exposure and one finds them laden down with heavy woolen clothing. One of the most characteristic developments is dryness of the skin so that effort even in hot weather causes little or no perspiration. The scalp is scaly, the hair poorly nourished, dry and thin, and a thinning of the outer half of the eyebrows is often noticed. The fine hair of the nape of the neck may be lost leaving a shiny bald appearance up to the occiput. There may be partial or complete pubic and axillary alopecia. On removing the stockings a fine powdery exfoliation from the skin may adhere to the inner surface of the garments, and there are frequently dry scaly patches over the knees and elbows.

A yellow tinging of the skin is very characteristic. This has none of the saffron tint of true jaundice but is of a pale lemon color. Swelling of the eyelids of a peculiar translucent watery appearance, is among the most constant symptoms and associated with it there may be defective lachrymal drainage resulting in more or less constant weeping. The puffiness of the upper eyelids compels a compensatory elevation of the eyebrows to widen the palpebral fissure and deep furrows form across the brow in consequence. A distinct disposition to obesity exists in these patients. A slow and progressive gain in weight is pretty generally observed and this may stand in marked contrast to the patient's former physical habit. Fat pads may form above the clavicles and not infrequently a similar accumulation may appear over the upper dorsal vertebra. Thickening of the subcutaneous tissues across the lower ribs and above the elbows and knees, and a bib-like roll over the upper sternum have been noted.

The increase of body weight and bulk is not attended by any improvement in strength, but on the contrary by a marked diminution of vigor and resistance. Disinclination to exertion and early fatigue following effort whether bodily or mental and a notable diminution in resistance to infections so that colds and anginas are easily contracted furnish evidence of the altered nutritive state. Pains in the knees and ankles and occasional "giving way" of the legs are pretty constant symptoms. Loss of memory and impairment of mental alertness characterize the cerebral function. These patients are usually stolid or on the other hand they may display irritability of temper and be sensitive regarding their altered personal appearance. Loss of visual and aural acuity are common accompaniments and the voice has often a peculiar husky quality. The deep reflexes are impaired, there is constipation and the action of the kidneys is sluggish. The thyroid may or may not be diminished in size and occasionally it is even enlarged.

NOT ALL CASES ARE TYPICAL.

It goes without saying, that in a condition so relative and of such transitional character as hypothyroidea, not all nor even the majority of the symptoms above detailed may exist in any given case. The most frequent and suggestive of the symptoms is the yellowish subicteroid tinging of the skin. When encountered in individuals of middle age without indications of hepatic or blood disease this symptom may well suggest the possibility of thyroid insufficiency. The face may not be swollen and "moon-shaped" as in fully developed myxedema, but is yellowish, with watering of the eyes and slight swelling of the loose orbital tissues and a peculiar reddish flush over the malar prominences is often observed. The subcutaneous swelling may be only slight or intermittent, coming and going without apparent cause, and it is often confined to the tissues of the eyelids. The facial appearance and edemas are not unlike those observed in certain cases of nephritis, but the urinary and cardiovascular indications of the latter disease are lacking.

The temperature may be normal or only occasionally subnormal. The skin may be still soft and moist and at times there may be free perspiration. There is usually slight symptomatic anemia. Diagnosis in such cases as these can be but tentative, but acting on the suspicion formed as to their thyroid nature the careful administration of thyroid extract will serve as a simple test to prove the correctness of one's conclusions inasmuch as a gradual clearing of the various symptoms may be confidently expected as in fully developed myxedema.

That the type of case thus briefly described is really myxedema in the earlier stages of its development there seems little room for doubt, and if left untreated there is strong probability of development into the typical fully-formed disease. There appear to be cases where this transition fails to take place, but such an arrest can not be anticipated in any given case. Owing to the essentially chronic nature of the underlying thyroid lesion the advance will be slow. Once the potency of thyroid extract to control the symptoms has been demonstrated it should be continued in such minimal doses as suffice to hold in check the nutritional disturbance.

The following two cases will serve as clinical illustrations of the points noted in this brief sketch:

CASE 1.—*Patient.*—Male, American, aged 39, average weight 165, weight at time of first consultation 175, married, one child.

Family History.—This is unimportant; his parents are living and in good health and there is no consanguinity.

Personal History.—Scarlet fever at the age of 12. Has had numerous attacks of abdominal colic, the last one ten years ago. No lues, habits good. It had been observed by the patient's wife during the past two years that his face would swell, particularly about the eyes, for a few days; no impor-

tance was attributed to this symptom, which always disappeared without treatment. In April, 1907, he had a severe infection of the throat with a retrotonsillar abscess and a good deal of inflammatory edema of the glottis so that his breathing was considerably embarrassed until the abscess discharged, which it did spontaneously. Cultures from the throat showed the infective agent to be the streptococcus. Opsonic vaccine therapy was employed, four inoculations being given. The opsonic index rose from 0.875 to 2. About June 25 there appeared a general subicteric tinging of the skin, the eyelids became swollen and there was malleolar edema with stiffness and swelling of the hands. Beyond a considerable degree of physical languor and excessive fatigue following exertion, there were no subjective symptoms. Shortly after the appearance of these developments the case came under my observation through the courtesy of the attending physician.

Examination.—Patient appeared to be a man of good physique with moderately thick but prematurely gray hair. The most striking thing about his personal appearance was the peculiar color of the skin, which was pale yellow, distinctly different from the saffron of true jaundice. This coloration was most noticeable on the face and palms of the hands; there was no tinging of the conjunctiva. The eyeballs were unusually prominent, and the loose orbital tissues were the seat of a translucent swelling which narrowed, somewhat, the palpebral fissure; there was a moderate amount of lachrymation. Patient's wife stated that he had for some years shown a tendency to puffiness about the eyes and lachrymation. No other edema was to be detected, although during the previous week it had been noted that there was some swelling about the ankles. The hands were not swollen, although the patient stated that they felt stiff and clumsy, especially when he wrote or essayed fine movements. There was no elevation of the eyebrows or frontal furrow. The scalp was dry and scaly and there had been some loss of hair. The skin was drier than normal, but the patient had remarked no change from his normal in regard to perspiration. Physical examination showed the chest and abdomen to be normal. Deep reflexes, sluggish. Pulse, 96, regular, soft and compressible. Blood pressure, 95 mm. (Stanton). Urine, 1800 c.c.; sp. gr., 1.010; urea 26 gms.; sugar, albumin indican, bile pigments, and casts absent. Blood examination: Erythrocytes, 4,387,000; whites, 9,800; hemoglobin, 78 per cent.; color index, 0.88. Two blood cultures on bouillon incubated at temperature of 37 C. for seventy-two hours showed no growth of organisms. Ophthalmoscopic examination revealed a few pinpoint chorioidal degenerative markings. Throat examination negative, hearing impaired (right, watch 3 inches; left, 12 inches). Rectal temperature, 99.6 F.

Some uncertainty was felt as to the diagnosis. A ferruginous tonic was ordered and the patient advised to spend the summer in the open air. This he did by taking a long yachting trip, and he returned in September stating that he felt very much improved. The blood count now was: Reds, 4,960,000; whites, 8,500; hemoglobin, 92 per cent. Body weight, 172 pounds. Blood pressure, 105 mm.; pulse, 84. The face was still yellowish, although less so than formerly; there was still some swelling about the eyes. It is interesting to note that the patient suffered severely from the cold all summer, no matter how comfortable the temperature was to others he was always less than warm. He also recorded the facts that he felt a very pronounced degree of weakness in the legs and observed that his finger nails were very brittle and grew slowly. His voice was frequently husky. One month after his return home the former languor, depression of spirits and somnolence returned and the icterus and swelling about the eyes became worse than at any previous time.

Treatment.—Acting on the theory that the edema and icterus were due to thyroid insufficiency (hypothyroidea) the administration of thyroid extract was now begun. Improvement in all the symptoms was soon apparent. The loss in weight during the first ten days of treatment was eight pounds. The edema gradually disappeared and with it the icterus, so that in one month after starting the thyroid extract the patient's normal appearance was restored and his weight fell from 175 to 163. Accompanying this effect there was a great improvment in physical and mental tone. The maximum amount of thyroid extract taken was 15 grs. daily, but this was for a few days only, the average dose being 9 grs. daily.

Subsequent History.—March 28, 1908, the patient reported that he felt perfectly well; his appearance was normal. For four months he had taken 2 grs. of thyroid extract daily, which was the dosage at this date. Acting under instructions he discontinued the drug for ten days, the effect being to cause the reappearance of the former languor and depression, a sense of oppression about the throat and huskiness. These symptoms promptly disappeared when thyroid administration was resumed. It is interesting to note the fact that the patient's wife had become pregnant since thyroid medication was started; last pregnancy four years prior.

The foregoing case furnishes an admirable example of how obscure hypothyroidea may be in its clinical manifestations and how real the difficulties are in arriving at a diagnosis. The rôle played by the infection in this case was in all probability a secondary one, there being evidence that the thyroid disturbance had existed in latent form for some time previous and that the infective toxemia served merely to accentuate a condition already existent but latent. Without the administration of thyroid extract the disease would undoubtedly develop and eventually become complete myxedema.

CASE 2.—*Patient.*—N. O., female, married, nullipara, aged 45.

History.—No definite family history could be secured. Patient stated that she had had "heart disease" since childhood. There was no history of rheumatism. At the age of 33 she develcped exophthalmic goiter, her state being characterized by well-marked goiter, exophthalmos, emaciation, extreme nervousness, tremor, sweatings, palpitations, etc. This condition continued for six years with varying severity when the symptoms gradually diminished in severity. The goiter slowly receded until as an appreciable tumor it had disappeared three years ago. It was only recently that her normal weight had been regained. She had always remained very nervous and the exophthalmos persisted when she was seen. During the past year she had been very short of breath and had much cough, which was paroxysmal in nature and apt to cause palpitation and precordial discomfort. Menses regular but scant. The patient stated that she had frequent sinking spells to relieve which she was often compelled to resort to stimulants; she was often dizzy and was much troubled with pains in the knees and ankles. Her legs would often give out suddenly while walking, compelling her to seek the nearest support. She complained much of muscular weakness, with excessive fatigue following exertion. Notwithstanding this progressive weakness she was gaining constantly in weight, having added fifteen pounds during the year past. The bowels were regular, although the movements were small in size; there was much flatulency. She had observed the fact that whereas she formerly was subject to excessive sweating on the least exertion she now had a very dry skin, effort no longer causing her to sweat, and only excessive nervousness bringing moisture to the skin. The hair had gradually thinned out until now it was noticeably scant. During the past three years she had lost all of her teeth. There was marked failure of memory. She complained much of her sensitiveness to cold, the slightest exposure causing chills; so much was this the case that she had been unable during the past year to work with her sleeves rolled up and her arms bare, even this slight exposure of the surface causing repeated chills. At the time she first consulted me, although the temperature was 60 F., she wore, beside heavy outside wraps, two thick woolen petticoats and woolen stockings and underwear. Notwithstanding these heavy coverings the skin was dry.

Examination.—The facies was very striking, the eyes were prominent and staring, but the ocular signs of exophthalmic goiter were lacking. A translucent, baggy swelling surrounded the eyes and a moderate degree of lachrymation existed, the eyebrows were elevated, and a deep furrow ran

transversely across the forehead. The cheeks were somewhat pendulous and there was a pronounced bronze-red malar flush.

There was no edema or swelling elsewhere, although the legs had a peculiar stiff-rubber feel when palpated. The neck had lost is normal roundness anteriorly and the thyroid could not be palpated. The deep reflexes were absent. Pulse, 78; irregular. Blood pressure, 210 mm. (Stanton). Apex beat diffuse and heaving and displaced almost to the anterior axillary line. There was a systolic murmur to be heard all over the heart, and the second aortic sound was markedly accented. The urine was very abundant, of low specific gravity and free from albumin. A few short hyaline casts were to be found in the urine sediment.

Treatment.—A diagnosis of chronic myocarditis and high arterial tension due to atheroma was made and the opinion was expressed that there was probably an incomplete myxedema (hypothyroidea) developing on the soil of an old Graves' disease.

The medication consisted of sodium nitrite and strophanthus for the cardiovascular condition and thyroid extract one grain three times a day, was begun one week after the vascular tonics. The result of thyroid feeding was prompt and beneficial. Within a fortnight there was a noticeable improvement in strength, a return of perspiration, and an entire disappearance of muscular and joint pains. Although the dose of thyroid extract has not been increased the improvement above noted has continued and there has been a slight loss in body weight.

103 State Street.

AN ANALYSIS OF FIVE HUNDRED CASES OF SPINAL INFANTILE PARALYSIS.

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The epidemic occurrence of anterior poliomyelitis is firmly established. The dependence of the disease on infection may therefore be legitimately assumed. The epidemic that prevailed in New York in the summer and autumn of 1907 afforded us unusual opportunity to study the disease, and we herewith present in tabulated form the analysis of 327 cases from that epidemic and 173 cases observed previous to that time. We have previously written[1] of some of the more striking features of the epidemic in New York, so we shall confine ourselves here to comments on the facts set forth by the tabulated matter presented, reserving for a future occasion detailed consideration.

STATISTICS OF 500 CASES OF POLIOMYELITIS.

327 epidemic cases occurring in 1907.

173 sporadic cases previous to 1907.

SEX.

	Males.	Females.
1907	200	127
1906	97	76
Total	297	203

Ratio of Males to Females 3 to 2.

MONTH OF ONSET.

	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
1907..	1	1	1	0	0	16	68	81	102	25	4	0
1906..	1	0	0	0	1	6	9	28	23	10	6	0
Total.	2	1	1	0	1	22	77	109	125	35	10	0

Period of epidemic, June to November, maximum number of cases in September.

AGE.

	(Under 1)	1	2	3	4	5	6	7	8	9	10*
1907	36	101	88	32	22	12	6	3	0	1	1*
1906	26	57	46	13	10	2	2	1	0	2	0†
Total	62	158	134	45	32	14	8	4	0	3	1‡

Most occur between ages of 1 and 3 years.

*In 1907, other ages, not tabulated, were: 4 days, 5 weeks. 11, 11, 12, 15 and 15 years.

†In 1906, other ages, not tabulated, were: 2 months, 17, 31 and 32 years.

‡The extremes were 4 days and 32 years (perhaps one case was intrauterine).

FEVER.

	"No Fever."	"Slight"	"High."
1907	15	148	109
1906	14	43	36
Total	29	191	145

The following table indicates maximum temperature in those "high" fevers in which the degree was ascertainable. They are not included in table above.

	103°	104°	105°	106°
1907	17	20	5	1
1906	0	4	3	0
Total	17	24	8	1

DURATION OF FEVER.

	1 to 4 days.	5 or more days.
1907	191	74
1906	70	26
Total	261	100

Duration of fever in majority of cases 1 to 4 days.
Not often longer than 1 week.
Cases without fever doubtful, although many instances with slight fever.

GASTROENTERIC SYMPTOMS, DEFECATION, URINATION.

	Vomiting.	Anorexia.	Diarrhea.	Constipation.	Retention.
1907	120	77	33	76	32
1906	31	1	16	12	5
Total	151	78	49	88	37

	Incontinence Urine and Bowels.	Diarrhea followed by Constipation.	Diarrhea previous to illness.
1907	4	3	3
1906	1	1	1
Total	5	4	4

PSYCHOMOTOR (MENINGEAL) SYMPTOMS.

	Somnolence.	Stupor.	Unconsciousness	Rigidity & Retraction.	Insomnia. Restlessness.
1907	78	31	6	39	29
1906	9	9	4	17	5
Total	87	40	10	56	34

	Twitch.	Convulsions.	Delirium.	Scream.	Cry.	Immotility.
1907	58	10	16	28	40	47
1906	8	8	2	4	19	12
Total	66	18	18	32	59	59

PARALYSIS.

	Leg	Both	Arm	Both	Triplegia	Quadriplegia	Homolat.	Crossed	Other*	Cranial†
1907	137	87	18	2	22	24	11	9	127	23
1906	79	47	18	3	5	8	9	4	29	12
Total	216	134	36	5	27	32	20	13	136	35

* DISTRIBUTION OF OTHER PARALYSIS IN TABLE ABOVE.

	Abdomen & Diaphragm.	Lumbar & Gluteal.	Back.	Chest.	Neck.	Sphincters.
1907	20	53	15	8	27	5
1906	9	12	5	1	2	1
Total	29	65	20	9	29	6

† DISTRIBUTION OF CRANIAL (NUCLEAR) PARALYSIS IN TABLE ABOVE.

	Rectus oculi.	Facial.	Larynx and Tongue. (Aphonia & Anarthria.)	Pharynx.
1907	11	4	12	2
1906	4	5	2	1
Total	15	9	14	3

The following order indicates frequency of parts paralyzed: 1. Leg. 2. Legs only. 3. Arm. 4. Quadriplegia. 5. Triplegia. 6. Hemiplegia. 7. Contralateral. 8. Both arms only.

The figures relative to the age are very striking; 95 per cent. of the patients were under 5 years, 70 per cent. were between 1 and 3 years, and 33 per cent. during the

1. Med. Rec., Nov. 2, 1907.

second year. The vulnerable age is, therefore, from 1 to 3 years. This, as well as the seasonal relationship, is graphically shown by the two curves of the text. The age curve indicates the number of cases occurring during each successive year of age, the season curve the number of cases during each month of the year. We have already drawn attention to the occurrence of the disease in more than one member of a family. The most noteworthy features of the paralysis are set forth in the tables, but we comment on the comparatively large number of cases in which paralysis of the abdominal muscles occurs, several of which afterward showed some degree of hernia.

In regard to paralysis that accompanies lesion of the epidemic cases of 1907, it may be said that it was most frequently of the lumbar enlargement, next often of the

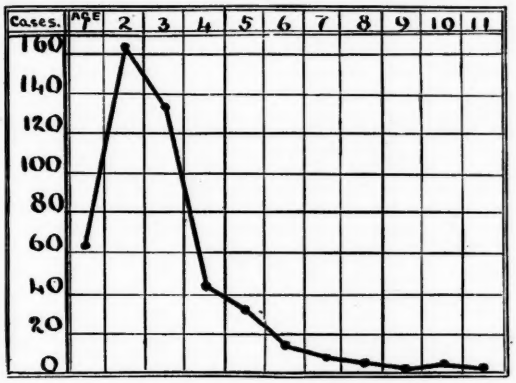

Fig. 1.—Chart based on 500 cases of infantile spinal paralysis both of the the 1907 epidemic and of the sporadic cases; showing age and frequency of occurrence (number of cases for each year of age). Vertical column shows number of cases; horizontal column, age in years.

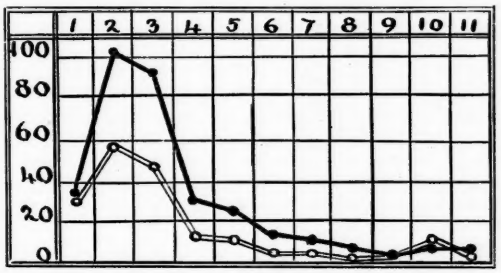

Fig. 2.—Chart showing a comparison of epidemic and sporadic cases of infantile spinal paralysis with age and frequency of occurrence; heavy line curve, epidemic of 1907; double line curve, previous sporadic cases.

cervical and dorsal cord, but not infrequently bulbar. There were all possible degrees and combinations. Two isolated facial "nuclear" paralyses were observed during the height of the epidemic. These were not included in the above analysis. Paralysis of the diaphragm was observed in one instance only, accompanying forced inspiratory efforts of the intercostal muscles. The number of times palsy of one of the cranial nerves was noted points to the frequency of serious meningeal symptoms.

The common meningeal symptoms are somnolence, stupor, rigidity of the neck, retraction of the head, twitching of the face and of the extremities both in the waking and sleeping state, sudden starting and screaming and occasional convulsions. It was at first thought that these symptoms occurred much more often in the epidemic cases of 1907 than in the sporadic cases before, but careful examination of the statistics showed that this was not so. Very often restlessness, insomnia, continued crying or moaning, even screaming dominate the initial stage. Occasionally there is unconsciousness, convulsions or delirium for a short time and in a few instances the meningeal *ensemble* is complete even to opisthotonus. This is illustrated by the following case:

A boy 3½ years old was taken suddenly ill last July while visiting in Hunter, New York. Symptoms were pain in the legs, followed by vomiting, high fever, marked irritability and great restlessness. Soon there developed rigidity of the neck, twitching of the face, hands and eyes which occurred when he was asleep and awake. Gradually he became stiff and immobile all over. The fever lasted eighteen days. When he was first examined three months afterward, he was a most typical example of poliomyelitis, with flaccid paralysis of both lower extremities due to symmetrical atrophy of all the muscles and involvement of the muscles of the pelvis and back.

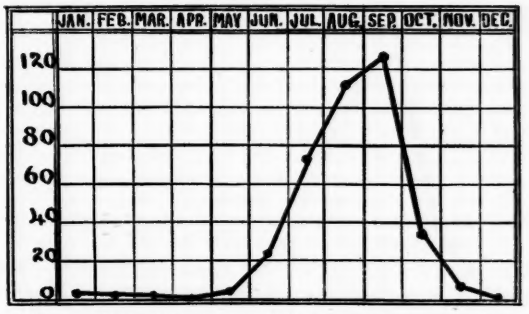

Fig. 3.—Chart showing seasonal frequency of occurrence (number of cases a month), based on total cases, both of epidemic of 1907 and previous sporadic cases.

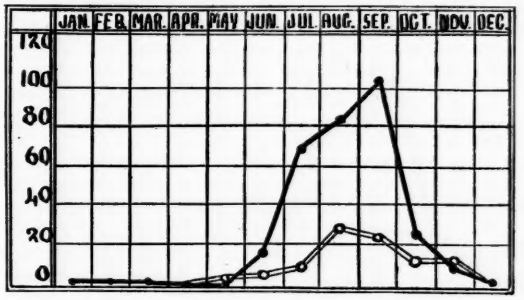

Fig. 4.—Chart showing a comparison of epidemic cases and sporadic cases with regard to seasonal frequency. Heavy line curve, epidemic of 1907; double line curve, previous sporadic cases.

In interpreting the figures that show the frequency of gastroenteric symptoms it must be borne in mind that they express the relative frequency of symptoms as compared to each other, more than the actual number of instances in which digestive disturbances occur; for instance, several of them may have occurred in the same case. Vomiting was the most common of these symptoms, but it is noteworthy that constipation occurs twice as often as diarrhea. Fetid stools were noted in many cases in which neither diarrhea nor constipation were present. In no instance was incontinence of urine a permanent symptom, and in no instance was trophic lesion of the skin, such as decubitis, noted. A triad of symptoms to which especial attention is called is abdominal paralysis, retention of urine and constipation.

No definite or constant relation was observed between the degree or duration of fever and the severity or extent of the paralysis, but it was distinctly made out that in all quadriplegias there had been a distinct febrile stage, whereas it was chiefly in the monoplegias that a history of "no fever" or "slight" was obtained.

Trauma, such as a fall, or physical exhaustion is sometimes, though not often, a definite antecedent. One child fell out of the window. Another, 2 years old, walked the unusual distance of three miles just previous to the onset of the fever, and in several instances there was a history of profound fatigue. In general, physical shock or overexertion plays a minor rôle in the etiology and is at most a predisposing factor. Occasionally a fall while walking is the first indication of a pre-existent paralysis. A striking feature is the fact that by far the greater number of children were in the best of health at the time of onset, many of them without previous illness of any moment.

In regard to the onset it may be said that the disease develops with and without warning, but usually with vomiting and fever. In many instances the child had gone to sleep apparently well. Sometimes the paralysis was evident the next morning, but usually from two to four days afterward. In few cases only was it noted that the fever continued after the appearance of the paralysis. As the somnolence, pain and hyperesthesia (especially marked on active or passive movements) are accompanied in many cases by immobility, it is often days and sometimes a week before the paralysis is noted. The definite time and order of onset and even initial distribution of the paralysis is not often determinable with the exactness which the statistician requires for reliable conclusions. Both the ascending and the descending "Landry" types of paralysis were observed in a few instances.

Paresthesias and objective sensory disturbances preceding or coincident with the onset are not so rare in older patients. In most cases the age of the child precludes the determination of objective sensory disturbances. They are of rare occurrence, but more frequent than formerly taught. Anesthesia and analgesia were determined in a few cases.

Other symptoms occasionally noted are teeth grinding, especially at night, rolling of the eyes, staring immobile expression, sleeping with the eyes open, tremor of the limbs, rolling of the head from side to side, flexion of one or more limbs with gradual relaxation after days or weeks, eruptions upon the skin, most commonly a fine papular reddish rash (similar to prickly heat), and in many cases local cyanosis. Herpes was noted in but one instance.

Deformities such as are described in the books were the kind most commonly seen; oftenest eversion of the foot, equino-valgus or equino-varus, calcaneus, dangle-foot, genu recurvatum, occasionally subluxation of the hip, or localized abdominal paralysis simulating hernia. Occasionally serratus paralysis with winged scapula occurred. We have instances of the latter in which the deformity of the shoulder blade is exactly similar to that which occurs in the scapular form of dystrophy.

The atrophies are often obscured by fat, but they usually correspond very closely to the paralysis.

In many instances slight edema of the paralyzed part was made out, occasionally about the more dependent joints also.

The symptoms that occurred in cases of anterior poliomyelitis constituting the epidemic of 1907 show one thing very clearly and that is the infection which causes the disease finds the entire central nervous system and its coverings susceptible. The gray of the anterior horns is merely the most susceptible or the most perishable under its influence. The meninges, the gray matter of the cortex, of the bulb and of the brain stem, and even the white matter, may all be affected. The intensity of affection of these parts rarely, however, goes beyond the stage of irritation.

Another thing that may be concluded is that the prognosis in anterior poliomyelitis is, like the prognosis in other infectious disease, such as pneumonia, typhoid and meningitis, a variable quantity. In some epidemics many cases recover; in others very few. Formerly it was widely taught that poliomyelitis never ended in complete recovery. Although we are not yet ready to publish the statistics of complete or fairly complete recovery of our cases, we are justified in saying that a considerable number of them have made a fair recovery.

SPONDYLITIS DEFORMANS: WITH CLINICAL REPORTS OF FIVE CASES.*

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Osteoarthritis of the spine, a subacute or chronic progressive ankylosing disease affecting the vertebral column, to which attention was particularly directed by a paper published by von Bechterew in 1893, has, in more recent years, been the subject of much discussion and investigation by German, French and American physicians, and it is to be hoped that the healthy interest now aroused will do something toward answering the several mooted questions as to the etiology, pathology and diagnosis of the disease. Our purpose in this paper will be to give a brief description of this disease, as understood by us in the light of recent literature, and by the clinical study of five cases which have come under our observation.

A considerable number of cases have been reported in the literature, and it now seems probable that the disease is not so rare as formerly believed, although it is very likely that some of these cases of "stiff spine" are not cases of spondylitis.

Guffy[1] in 1905 collected 131 cases for analysis, 14 of which had been previously studied by McCarthy of Philadelphia. Arthur Krause[2] and Focken[3] have also collected many cases and made careful reviews of the whole subject.

ETIOLOGY.

The etiology of spondylitis deformans has not yet been fully determined. The disease is about three times as common in men as in women, and it occurs most frequently between the ages of 25 and 45. Habits involv-

* Read before the Allegheny County Medical Society, March 17, 1908.

1. Guffy, D. C.: Univ. Penn. Med. Bull., November, 1905.
2. Krause, A.: Inaug.-Diss., Berlin, 1905.
3. Focken, R. H.: Mitt. a. d. Grenzgeb. d. Med. u. Chir., xi, part 5.

ing exposure to changes in temperature, hard work and poor hygiene generally are important predisposing causes. Heredity and trauma appear to play a rôle in some cases. Finally it seems probable that some toxic or infectious agent acts as an important factor in many cases.

As is usual in diseases of obscure origin, trophic and metabolic disturbances have been regarded by some authors as playing an important part in the etiology. Silver,[4] in a paper read before the Pennsylvania Medical Society in 1907, analyzed 163 cases carefully collected from the literature. He assigns an infective agent as probably the definite cause in over one-fourth (46) of the cases, and as very probably the cause, conservatively stated, in at least one-third of the number. In his paper he shows how acute osteomyelitis attacks the spine and states his belief that the infection apparently arises spontaneously in the majority of instances. But he shows that many cases are demonstrably secondary to a primary focus elsewhere. Silver also shows how the spine is frequently involved in certain acute infectious fevers, as typhoid, scarlet fever, pneumonia, measles, acute rheumatic fever, influenza, and empyema, and infectious conditions of the mouth and throat. In all he has collected eighty-six cases in which spondylitis of greater or less degree followed acute infections.

In view of this fact, then, that the spine may be acutely involved following a variety of infections, it seems safe to conclude that chronic ankylosing spondylitis itself is more than probably due to some infectious agent; that this agent is not specific; and that in those cases in which no definite infection can be found the possibility of hidden sources, as the tonsils, the intestines, the genitourinary tract, should not be forgotten. As showing the relation to each other of all inflammatory conditions of the spine Silver's conclusion is interesting and worthy of quotation in full:

"From a study of the subject the impression is created that in early life when the tissues are especially vulnerable infection is very likely to result in suppuration; in young adult life, when the resistance is greatest and regenerative processes most active, suppuration is less frequent and recovery without rigidity more probable; while in later adult life there is a tendency to permanent ankylosis of the spine. That a great variety of bacteria may give rise to spinal inflammation is evident from clinical observation and pathologic findings."

Ploos Van Amstel,[5] believing that chronic stiffness of the spine is in the majority of cases a distinct disease, and not a symptom of another, tries to strengthen his views by giving as a definite cause a mixed infection of a saprophyte, as yet unknown, and a specific bacterium, as the gonococcus or tubercle bacillus. This theory is an attractive one and would do much to simplify matters; but in the absence of definite proof we can present it only for what it is worth.

So much for the etiology.

PATHOLOGY.

As regards the pathology of spondylitis deformans, generally speaking, it is that of osteoarthritis elsewhere, involving the bones, cartilages and the ligaments. There is proliferation of cells in the fibrous and cartilaginous tissues with a subsequent ossification. Pressure on the weakened discs may cause atrophy, allowing the vertebræ to come in apposition and to fuse in greater or less degree; and this, with the ossification of the ligaments and the interlocking of the bony nodosities outgrowing from the cartilages, causes the stiffness of the spine, which may be so great as to prohibit all movement, depending on the stage the disease has reached. Further, the nodosities or exostoses above described may encroach on the intervertebral foramina and the spinal canal, and pressing on the cord, spinal ganglia, nerve roots and the spinal nerves cause sensory and motor disturbances varying in degree.

Unfortunately autopsies reported are few. We have reviewed the findings of one case by Ruhräh,[6] one by Dana,[7] one by McCarthy,[8] one by Collins, one by von Bechterew,[9] and one by André Leri.[10] The scarcity of autopsies is to be deplored for the reason that further investigation might settle the question as to whether the ankylosing process is primary and the nerve disturbances secondary to pressure as just described, or whether the nerve disturbances themselves may not be primary and cause ankylosis secondarily by trophic changes. Bechterew describes a case of the so-called Bechterew type of spondylitis (which will be described later). He found a chronic inflammatory process in the pia mater of the cord which, he believed, secondarily involved the nerve roots, the cord and the ganglia, and that these in turn caused the bony changes in the spinal column through trophic influences. Remembering that joint changes may be seen in tabes and syringomyelia the possibility of arthritic diseases secondary to nerve changes must be admitted. Leri's case showed no diseased condition of the cord and membranes, but, nevertheless, quite a degree of ankylosis, with, however, no narrowing of or encroachment on the foramina. McCarthy gives a complete autopsy report with a careful gross and microscopic examination of the nervous system, which showed, however, no more changes in the nervous tissue than the arteriosclerosis present in his case would explain. In Dana's case there was noted only an absence of the lumbar enlargement.

SYMPTOMS.

As regards the symptoms, these are referable, as would be expected, to the spine, and to other joints involved in the same osteoarthritic process, to the spinal nerves. The onset is gradual and insidious, very rarely acute, though this may occur. The first symptoms noted are pain and stiffness in the spine, in the earlier stages most noticeable after a period of rest, as when the individual is getting out of bed or out of a chair. At times this may be felt only on nodding the head or on stooping. The pain may be in the spine itself or referred to the nerve distribution, accompanied also by anesthesias, paresthesias, hyperesthesias and trophic disturbances. Pains early in the disease are characteristic; later as movement in the spine is limited or lost and there has been a contraction and ossification of the exostosis, pressure on the nerve roots is relieved and pain may practically disappear.

With the gradual extension of the process, movement in the spine becomes more and more limited and finally *nil*, so that the sufferer is unable to move his spine at all or even nod his head, a condition well meriting the

4. Silver, David: Penn. Med. Jour., February, 1908.
5. Van Amstel, P. J. de B. P.; Klin. Vorträge. (Series xiv, part 19), new series, No. 409 (Chirurgie, No. 112), Jan., 1906, Leipsic.
6. Ruhräh: Am. Jour. Med. Sc., 1903, xcvi.
7. Dana: Tr. Assn. Am. Physicians, 1901, xvi.
8. McCarthy, D. J.: N. Y. Med. Jour., 1905.
9. von Bechterew: Deutsch. Ztschr. f. Nervenh., 1899, xv.
10. André Leri: Rev. de méd., 1899.

oft-applied term "poker-back." Depending on the seat of onset this stiffness may be limited to the cervical, thoracic or lumbar region and progress no further. Beside the spine, any other joints may be involved, more especially those of the shoulder and pelvic girdle. The ribs by reason of ossification of the costovertebral articulations may lose their normal range of motion, which is noticed early by the patient on attempting a deep inspiration.

As has been stated, the symptoms are insidious as a rule, though they may be acute, but the disease process may stop at any time, leaving changes in the spine which are not recognized by the patient or diagnosed by the physician. Not infrequently, because the pains are referred pains, and because pain referred to the spine itself is slight or absent, the condition is diagnosed as muscular rheumatism and so treated. But in advanced cases the disease is distinct and the patient presents a striking appearance. The spine becomes deformed, usually with a dorsal kyphosis and a diminution of the lumbar lordosis. Standing, the patient holds himself carefully rigid, with the head bowed toward his chest, his back curved forward, the thighs flexed on the pelvis and the knees on the thighs with outward rotation; in walking he moves slowly, awkwardly and laboriously, often finding a cane necessary. Lying down, his knees are bent and his chest propped up on pillows. If an attempt is made to lie flat on the back the pelvis is raised and *vice versa*. In advanced cases walking may be impossible and the patient becomes bedridden. Breathing may become entirely abdominal and the chest flat. There is much wasting of the muscles of the shoulders, back and pelvis, partly from disease and partly from trophic changes.

In some cases the exostoses may easily be felt, especially in the cervical region. If joints other than those of the vertebræ are involved we may find simply pain and limitation in motion. At times bony nodes and deposits may be felt with, perhaps, some deformity; but bony nodes and deformity are not, as in arthritis deformans, constant. One of our cases presents all these symptoms so beautifully that further description is best deferred to its consideration.

In much of the literature one may find mention made of two distinct types of chronic ankylosing spondylitis, the von Bechterew and the Strumpel-Marie. Von Bechterew has given the subject much study and written much about it, and the disease bearing his name is characterized by a rigidity of the spine, complete or incomplete, with a dorsal kyphosis, weakness of the muscles of the neck, back and loins, and accompanied by nervous phenomena due to irritation of the spinal nerves. The Strumpel-Marie type includes cases that show involvement of the hips and shoulders in addition to the spine with much less prominence of the nerve symptoms. To this type the French, who have given it much study under the leadership of Marie, have given the name *spondylose rhizomêlique*. Bechterew himself has reported cases belonging to this latter group and holds that cases of the von Bechterew type are different and that they belong in fact to a distinct clinical entity and are of nervous origin.. His autopsy findings have already been mentioned. Perhaps we may be pardoned for repeating that he found a thickened pia matter which caused secondary nerve disturbances; and these in turn he held resulted in trophic changes causing ankylosis.

The question as to whether these two types are entirely different or really variations of the same disease has stirred up a controversy, especially on the continent. In 1907, fifteen years after his first paper, von Bechterew[11] still insisted that there were clinical and anatomic differences in the two types. But cases have been described in which some of the characteristics of the v. Bechterew type are seen in the Strumpel-Marie, and some of the characteristics of the Strumpel-Marie in the v. Bechterew. Moreover, the pathologic anatomic differences described by von Bechterew have not been confirmed by others. Arthur Krause,[2] after an analysis of seventy-seven cases, opposes v. Bechterew's view, as do v. Lagiewski,[12] Fränkel,[13] Ploos Van Amstel,[5] Allbutt,[14] Oppenheim[15] and Osler.[16] In short, the weight of opinion, in the light of the more recent investigation and study, favors the view that the difference is one of degree; that it is "quantitative rather than qualitative." However, there can be no objection to classifying cases as belonging to one or the other of these types for clinical purposes. Before labeling a case one of the v. Bechterew type, the precaution advised by McCarthy to wait a sufficient length of time to preclude the possibility of the involvement of joints other than the vertebral should be observed.

The relationship of this symptom-complex to arthritis deformans no doubt has already arisen in the mind and deserves brief discussion. According to McCarthy,[5] there may be ankylosis and rigidity of the spine in cases of advanced arthritis deformans; and, moreover, there may be cases of arthritis deformans in which spinal involvement with root symptoms is an early manifestation of the disease. Osler[17] in 1901 reported five cases of spondylitis deformans, and at that time expressed the opinion that they were all varieties of arthritis deformans; and in his latest text-book we find both the v. Bechterew and the Strumpel-Marie types so disposed of. Magnus Levy[18] speaks of deforming spondylitis as arthritis deformans with *"besonderer lokalisation."* However, many of the German and French writers, and v. Bechterew himself, as we have seen, are not so agreed. Garrod,[14] who wrote the article in Allbutt's system, says that these cases of spondylitis deformans as seen in the v. Bechterew and Marie types are to all appearances distinct, although he asserts that arthritis deformans may attack the spine.

The difficulty in making any definite statements on this question arises, it seems to us, in the really incomplete knowledge we possess of chronic arthritic processes, among these arthritis deformans itself. Believing that many etiologically and perhaps pathologically different processes have been classed under the one disease called spondylitis deformans, or chronic stiffness of the spine, we are ready to admit that some of these cases are cases of arthritis deformans as at present understood. To be more explicit, we mean those cases occurring as a rule in people past middle life in whom in addition to the stiffness of the spine there is involvement of the smaller joints with nodosities and deformity. Cases of the so-called *spondylose rhizomélique* as described by Marie, can not, we feel, be definitely separated from arthritis deformans as it is at present under-

11. von Bechterew: Monatschr. f. Psychiat. u. Neurol., 1907, xxi, 527.
12. von Lagiewski, Th.: Inaug. Diss., Leipsic, 1905.
13. Fränkel, Eugen: Fortschr. a. d. Geb. d. Röntgenstrahlen, 1907.
14. Allbutt's System of Medicine, iii, 1907.
15. Oppenheim: Diseases of Nervous System.
16. Osler: Practice of Medicine, 1907.
17. Osler: Tr. Assn. Am. Physicians, xvi., 1901.
18. Levy, A. M.: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1902, ix.

stood. Cases of the so-called v. Bechterew type with limitation of the arthritic disease to the spine and prominence of nerve symptoms can with much less certainty, we think, be classed with arthritis deformans.

DIFFERENTIAL DIAGNOSIS.

As regards the differential diagnosis, early cases of Pott's disease may present some difficulty, and one may not be certain until after several examinations or until the disease has further progressed. In general the patient is apt to be younger; there may be an antecedent tuberculous history; the pain and tenderness remain localized to a limited area, and the nerve disturbances are central in type. Later the angular deformity of Pott's disease and the involvement of other joints clear up the diagnosis. Tuberculin and the *x*-ray will be of assistance in doubtful cases.

The spinal form of hysteria, or traumatic neurasthenia, or railroad spine, may present a rigid spine with pains and tenderness to a marked degree. A careful history of the illness, supplemented by a thorough psychic and physical examination, will direct attention in the right direction. There is something about the temperament of these patients, and even their manner of telling their stories, which must strike even the inexperienced observer. In cases of doubt anesthetization will reveal the true condition.

In those cases of compression fracture of the spine described by Kimmel there may be pain, rigidity and deformity. Here a careful inquiry will show that the spine was struck with considerable force and that the trouble dates immediately from that time. Examination should show localized pain and tenderness, a defect in the alignment of the spinous processes, and that the greater part of the rigidity of the spine is due to voluntary limitation of movement to avoid pain.

Henle describes a variety of spondylitis traumatica, which is not hysterical, which is not due to a fracture as in the Kimmel variety, and leads to pain, deformity and limitation of movement in the spine. These symptoms develop gradually, either some time after the immediate injury, or after an interval sufficiently long for the patient to have recovered from the direct results of the injury, which itself may have been almost forgotten. The cause of this spondylitis is supposed to be some injury to the cord leading to vasomotor changes, as a result of which the metabolism of the vertebræ is disturbed. The bony substance is lost and the vertebræ are weakened in much the same way as they are in osteomalacia; hence the term spondylomalacia. Examination, then, will reveal abnormal weakness of the spinal column, which is the distinguishing feature from spondylitis deformans.

Hypertrophic cervical pachymeningitis beginning with stiffness of the neck and radiating pains may be likened to spondylitis, but the former is more acute in onset, is limited to the cervical region, and is accompanied by mental symptoms. It is a rare condition.

Coxitis may cause stiffness in the spine due to voluntary efforts of the patient to avoid movements which cause pain. The examination of the hip joint should reveal the true condition.

The occupation kyphoses or laborer's spine, the *duplicature champêtre* of Marie, occurring in hard workers in a stooping position is not to be confused with spondylitis, because there is never a "welding together" of the entire spine, a very pronounced ankylosis of the joints of the extremities, or exostoses.

As a symptom in certain nervous diseases whose diagnosis is easy by reason of other characteristic symptoms, stiffness of the spine occurs and should be mentioned. Among the more familiar of these diseases may be noted hereditary ataxia, syringomyelia, tabes dorsalis and paralysis agitans.

Before leaving the question of the differential diagnosis some special stress should be laid on the *x*-ray as a diagnostic help. If there is considerable ossification of the ligaments the radiogram will reveal it, especially if it be in the cervical or lumbar regions. A negative picture is not by any means evidence that there are no arthritis changes.

PROGNOSIS.

The prognosis has been regarded as unfavorable, not as regards life, but as regards the course of the disease. Yet if the disease is recognized early and proper treatment instituted we believe from our own experience that much can be done. The need of an early diagnosis can not be too strongly urged; for many cases are treated as rheumatism until the development of deformity and nodosities renders opportunity of doing much good very small. As the disease manifests a tendency to progress, sometimes in spite of all treatment, prognosis should be guarded. Given an early case, however, with pain, stiffness, no nodosities, and a little deformity, much may be done to arrest the disease and bring about even an apparent cure. Much of the stiffness in the early stages being due to pain and muscle spasm, relief of irritation on the nerve roots may bring surprising results. Cases further advanced may at least be relieved of pain, for which these poor sufferers will be truly grateful. Of course nothing can be done to remove the exostoses and the ankylosis once they have formed. On account of the limitation of the movements of the chest, tuberculosis is perhaps the most common intercurrent disease causing death.

TREATMENT.

Once the diagnosis is made we believe that the patient should be put into the hands of a competent orthopedic surgeon, as was done in three of the cases to be reported. The patient needs most painstaking care, both as to his general and local condition. The general health should be improved to the highest possible degree and the faulty action of any organ in the body corrected. Any possible source of infection should be removed; and to this end a careful examination should be made of the nasopharynx, the gastrointestinal and genitourinary tracts, and the skin. On account of the danger of upsetting the stomach, there is little place for drugs. Tonics, fresh air, sunlight, good nutritious food, rest and restfulness should comprise the armamentarium.

As regards the local treatment, in the early stages some method of fixation for the spine should be used, either of plaster or steel. This prevents the irritation of the diseased vertebræ and relieves pain and stiffness. Later, as the process has subsided, passive motion and massage may be used with benefit. The spine in old cases should not be fixed, for here our object should be to ward off by massage and movements the tendency to complete ankylosis.

CASE REPORTS.

CASE 1.—The first patient is under the care of Dr. Silver, who has kindly given us an opportunity to study and report it.

Patient.—Mr. McD., white, American, automobile repairer, aged 34 years.

History.—The history is good until the age of 19, when he began to be troubled with a tired feeling in his legs, and

later in the same year suffered with what was called sciatic rheumatism in his right hip, which continued to trouble him up to the time of the present illness. He denies all venereal disease.

Present Illness.—The present illness began in the winter of 1905, while the man was working as an engineer in an ice-plant, with diffuse pains, intermittent in character, in the dorso-lumbar region. Attributing this trouble to the frequent and sudden changes in temperature to which he was exposed by the character of his work he left the ice plant and took up automobile repairing. He was now free from pain for a period of six months. But again, being exposed to chillings by going out of the shops, while overheated, to test the running of the machines, he noticed about the middle of August, 1906, that his trouble was returning. In December, 1906, the pain, which up to this time had been located in the lower back, shifted to the neck and shoulders; the neck became stiff, and since then he has been unable to move it much. The intensity of the pain and stiffness varied, and at one time the head was drawn down toward the chest, the movements of the jaws were restricted, and swallowing became difficult. At times he suffered from cramps in the muscles of the neck, chest and shoulders. The chest expansion diminished from five inches to *nil*. His trouble was diagnosed as rheumatism by the attending physician and so treated. His condition became worse. From this time, December, 1906, the patient dates the beginning of his loss in weight and his pallor. Twice during 1907 he took baths and massage with much benefit.

Examination.—The complaint, at the time of the examination, January, 1908, is pain and stiffness in the back, stiffness in the right hip joint, slight limitation of motion in the jaw (much less than it was), loss of weight (from 185 to 118 pounds), weakness, and susceptibility to the weather. He can walk with greatest difficulty and only by the use of a cane. Examined, stripped, he shows much emaciation. He gets out of bed with extreme difficulty, and arises to his feet slowly and laboriously. The head is slightly bent forward, the spine is evidently rigid, and the knees and hips are somewhat flexed on standing. The color is fairly good, the skin is clear, and the lymphatic glands only slightly enlarged. Examination of the heart, lungs and abdominal organs reveals nothing noteworthy. The spine is practically stiff, except for a slight movement backward and forward and sideways in the cervical region. At the dorso-lumbar junction there is perhaps some little movement forward. There is marked atrophy of the supraseapular muscles and less marked atrophy of the deltoids. The arms are weak, but the hands and forearms seem to show normal strength. At present, the patient suffers no pain in the spine except on movement. The spine is not tender on pressure. The breathing is abdominal. The chest expansion measures ¾ of an inch (previously, 4 to 5 inches). The right thigh can be raised to a little less than a right angle, and rotation is practically lost. The left hip joint is restricted in movement, but to a less degree. There is much wasting of the right gluteal muscles and some less marked in the left. None of the other joints is involved except the temporomaxillary and those only slightly. At one time there had been some limitation in movement of the right knee. The muscles of the thigh and legs are much atrophied.

Reflexes: The knee jerks are exaggerated, the right more than the left. The Achilles jerks are quite active; there is no Babinski reflex, no plantar toe reflex. Sensation everywhere is practically normal.

Blood Vessels: Especially noteworthy in this case is the great degree of arteriosclerosis, easily felt in the femorals, anterior and posterior tibials, brachials, radials, ulnars and carotids. [As the autopsy in one of McCarthy's cases showed nerve changes explainable by this cause alone, the condition of the blood vessels in this case is given more than passing note.]

Urine: The urinary examination was negative.

Blood: The blood examination shows red blood corpuscles, 3,710,000; white blood corpuscles, 7,500; hemoglobin, 72 per cent.

Treatment and Result.—This case may be classed with the Strumpel Marie type of spondylitis. At the time the patient was first seen by Dr. Silver his trouble seemed hopelessly far advanced; and we wish to call particular attention to the results of treatment. The tonsils were cauterized, the general health was given the best attention, and a steel brace was made, to be worn part of the day. *X*-ray treatment is employed.

Subsequent History.—An examination made recently revealed considerably more movement in the spine and right hip joint, and almost entire relief from pain. The patient is strikingly encouraged and hopeful. One unfavorable factor in his case is, however, the great degree of arteriosclerosis.

CASE 2.—A man, aged 60, referred to Dr. Diller for examination by Dr. McKelvey, is married, a roller by occupation. He never drank or smoked, and never acquired venereal diseases.

History.—The man's health had been very good until about a year before, when he began to lose weight and complain in a rather indefinite way. For the previous seven months he has been subject to "rheumatic" pains located chiefly in the back, along the spine, and also in the right ankle and the toes of the left foot. He has complained that the right ankle is weak. Immediately on awakening in the morning he experiences pain across the small of the back. The hip becomes sore when he lies long on it, and so he turns from one side to the other. He states: "When I sit in one position and straighten up I am all sore." He has aged very much during the last year. His weight has run down from 170 to 135, and he now has an old man's gait. He states that the pains in the small of the back were most severe last February, and that the pain radiated down the legs. He further states that the pain is not severe now. It appears to him to radiate from the spine.

Examination.—The patient is senile in appearance. His gait is constrained and shuffling and somewhat suggests paralysis agitans. But other signs of that disease are lacking. Examined, stripped, at the Allegheny General Hospital, it was discovered that the movement of the spine was very limited and in the lower region almost absent. This limitation appears about equal whether in forward, backward, or lateral movement. The right ankle is much swollen, apparently due to bony deposit. The patient walks with a limp. Sensation is normal; knee jerks normal; pupils sluggish.

Subsequent History.—Dr. McKelvey reported a few months later that the patient had, at his request, been fitted with a jacket by Dr. David Silver, and that the device had greatly relieved the pains. It may be remarked in passing that this report furnishes strong evidence in favor of the correctness of the view that the case was one of arthritis deformans affecting the spinal column and producing nervous symptoms by pressure on the posterior nerve roots. Restraint of movement would naturally relieve to a degree this nerve irritation. A later communication from Dr. McKelvey informs us that this man's improvement had remained about the same during the previous nine months. Interesting also from the standpoint of etiology is Dr. McKelvey's report that every once in a while there is clear evidence of a toxemia which is promptly relieved by periodical courses of elimination. In the early part of this paper mention was made of the fact that heredity at times seems to play a rôle, and noteworthy here is the statement of Dr. McKelvey that several of this man's children suffer with shooting pains at times.

CASE 3.—The next case is that of a woman, single, aged 53, whom Dr. Diller saw with Dr. Welsh on June 30, 1906. The only point of importance in her family history is the fact that one sister has had exophthalmic goiter for many years in an exaggerated form.

History.—The patient's previous history is not remarkable. Since early the previous March she had been complaining of pain in the left arm and shoulder and running down to the fingers and also in the left chest and back and sides. These pains, intermittent at first, have grown to be almost constant and at the same time more severe. During this time she has lost a great deal of power in the arms. These pains are much worse on damp days; and movement is apt to bring them on. There have also been pains in the right upper arm.

Examination.—The movements of the spine, particularly the upper dorsal and the lower cervical, are much restricted,

although not entirely absent. There is some swelling of the second joints of the fingers. Movements of these joints produce acute pain. Movements of the spine generally, either active or passive, produce pain and discomfort. There is some loss of power in the left arm and hand, the extent of which it is difficult to determine because of the pain in the fingers. There is only a moderate degree of wasting in the arms, which is not localized. The knee jerks are exaggerated, the right being rather more active than the left; no clonus; no toe reflex.

Termination of Case.—The patient grew progressively worse and died in two months.

This case can be classed with the v. Bechterew type of spondylitis, although it does not conform exactly to the description as originally given by him. The swelling of the second joint of the fingers strongly suggests to us arthritis deformans. Yet Bechterew himself reports one case with enlargement of the toes.

CASE 4.—A priest, aged 68, of German origin, who had been a stout, vigorous man until the onset of his present trouble, was seen by Dr. Diller on April 18, 1904, in consultation with Dr. Peoples; and three days later with Dr. J. J. Buchanan and Dr. Peoples. The family history is negative.

History.—His personal habits have been good; he uses no tobacco, and he takes a single glass of beer daily and occasionally light wine. "Time and again" during the past five or six years he has been troubled with "rheumatism," located chiefly in the neck and shoulders. The pains are now very marked and have been during the past year, and especially about last September. Since the middle of December, 1903, they have been almost constant and were especially severe about a month ago. Since then they have somewhat abated. They are located chiefly at the back of the neck and in the shoulder, but they radiate down the arms and hands and, to a less extent, down the legs also. Since Christmas the patient has been steadily losing strength of the arms and legs. For the past six or eight weeks he has had edema of the legs and of the right arm. Since March 1, 1904, he has been unable to raise the left arm to his head, although he could perform this action with the right arm. Now the reverse of this is true. For at least a year it has been noted that his head has been drawn forward on his chest; and this posture has been steadily growing more pronounced. The patient states his gait has been stiff for the past three or four years.

Examination.—The patient is barely able to stand with assistance and to walk a few steps. The steps are very short, scarcely more than three or four inches long. There is marked edema of the right hand and of both legs and feet. The heart and lungs appear normal. The eye grounds, pupillary reflexes and ocular movements are all normal. Dr. Peoples' examination showed the urine to be normal. The patient's figure, as he sits on his chair with his head drawn forward so that the chin is almost in contact with the chest, is a striking one. He is able to move the head backward voluntarily only to a very slight extent. Passive forcible movement backward caused him much pain and was resisted by him. In a similar way, the lateral movement of the neck is restricted, although to a rather less extent. A marked posterior curvature in the cervical region is noted. Palpation here reveals a hard, apparently bony mass. Evidently there are large masses of exostoses on the cervical vertebræ. The whole spine is stiff, and movement is apparently only from the pelvis. The grasp of the hands is feeble. Dynamometer: right, six pounds; left, ten pounds. There is no special wasting of the muscles, and there is no pain on pressure along the great nerve trunks. The reflexes and the knee jerks are both exaggerated; Babinski toe reflex and ankle clonus are marked on both sides. There is no objective disorder of sensation. The question of the possibility of relief of the severe pains by surgery was raised, but Dr. Buchanan was of the opinion that the patient could not bear an operation, and so it was not attempted.

This case can perhaps with more certainty be classed with the v. Bechterew type of spondylitis, considering the prominence of the nervous disturbance, the limitation (at the present time) to the spine, and the beginning of the disease in the upper part of the spine. Here again we wish to call attention to the benefits of treatment, for a late report from Dr. Peoples states that the patient had made considerable improvement and was once more able to attend to the duties of his calling.

CASE 5.—Our last case is that of a married woman, aged 46, the mother of two grown children.

History.—For years she has been a very hard worker and has suffered with endless worry over a worthless, dissipated husband. She conducted a bakery, getting up early in the morning and working until late at night, frequently exposing herself to changes in temperature by making large quantities of ice cream, chopping the ice and packing the freezer herself. Two years ago her left breast was removed for cancer. Since Oct. 15, 1907, at which time she states she was a "nervous wreck," the patient has been under the care of Dr. Dutton. She was unable to sleep and complained of pain in the right shoulder and right arm, and also in the ribs and in the ovarian region. In June, 1907, she developed a facial paralysis, followed by some ulceration of the cornea. Her appetite is good; she is not constipated. For five weeks the patient had been, in a measure, confined to her bed, and for three weeks complained very much of severe pain at the back of the neck, at the base of the spine, and especially in the right leg. Pains in the left side and left leg have not been so marked. The patient is introspective, talks of cancer and fears its return.

Examination.—The patient is a thin, emaciated woman with an anxious expression. The mucous membranes are fairly red. She can not close her right eye fully (seventh nerve palsy). She walks with difficulty and can take only a few steps without assistance. The spine, from the last cervical vertebra to the pelvis, is rigid. There is little or no movement backward or forward and only slight movement laterally. The cervical vertebræ seem uninvolved. The right shoulder is very much enlarged, and also the upper part of the humerus, the general enlargement being apparently bony in character. Movements of the right arm are limited, and efforts to raise it beyond an angle of 45 degrees cause great pain. The calves of the legs are very thin and flabby, and over the right one there is considerable tenderness on pressure. The knee jerks and the Achilles jerks are absent. The dorsal arteries of both feet are distinctly sclerotic, while the radials appear about normal. The scar of the operation for the removal of the cancer seems perfectly healthy and shows no evidence of a recurrent growth. Examination of the abdominal and thoracic organs reveals no evidence of metastasis. There is no evidence of the return of the cancer.

Treatment.—This patient was sent to the Allegheny General Hospital for further study and treatment. There an *x*-ray picture was taken, and, according to the report of Dr. Silver, the plate shows the undoubted presence of spondylitis.

CONCLUSION.

In conclusion, we wish to state:

1. An infection of some kind, apparent or hidden, plays an important rôle in the etiology of this disease.

2. Except for clinical purposes, we are not yet warranted in classifying this disease into two separate and distinct types.

3. The probability is that spondylitis deformans is not a distinct entity, but a clinical term covering many perhaps etiologically and pathologically distinct diseases in which spinal stiffness is the most prominent symptom.

4. Proper treatment in early cases, as a rule, brings good results; in later cases it relieves distressing symptoms.

5. There is need of clinical records covering the subsequent history of these cases, for further developments may throw new light on the etiology and exact diagnosis.

6. There is great need of additional evidence from the postmortem table.

A VISIT TO STIRLING ASYLUM.

JULIA C. LATHROP.*
CHICAGO.

In January, 1907, I visited the Stirling Asylum at Larbert, Scotland, in order to see the system of nursing which has been gradually worked out there by the superintendent,[1] Dr. George M. Robertson.

On my arrival I was given the keys of the institution and during the week of my stay I went in and out of all the wards freely at whatever hours I chose. In every respect I was given the fullest opportunity to judge of the quality of the service.

For some years the reports of the General Board of Lunacy for Scotland have shown an increasing employment of women attendants for men patients in the Scotch institutions, a practice widely followed in the United States as well. In addition to this feature, though dependent on it, is the original organization of the entire nursing staff, or, more strictly, of all the employés who come in contact with the patients in the house. This general organization is worthy of careful study. Its head under the superintendent is a graduate of a general hospital training school. Her title is Head Matron and she has general control of the housekeeping and the hiring and management of the subordinate inside employés as well as the usual supervision of patients, attendants and nurses. Next under the head matron is a group of assistant matrons, who with two exceptions are graduate nurses from general hospitals. The matron in charge of the laundry and the matron in charge of the kitchen for the preparing and serving of the food are graduates of schools of domestic science. The matrons who are graduate nurses are in charge of the wards and the patients, nurses or attendants thereon. Thus wherever the patient is, on the ward, in bed or going about some work, employed in the laundry or the kitchen, he or she is under the supervision of a person of special training.

In direct charge of the patients, under the graduate-nurse assistant matrons, is a full corps of attendants, men and women. The women attendants are called nurses in contradistinction to the men attendants and they outnumber the men more than three to one. The assistant matrons in charge of the wards train the nurses and attendants in the actual physical care of the patients, especially of those who are acutely or violently ill, and are responsible by day and by night for the condition of the patients. The staff physicians and the matrons give lectures and bedside instruction to the nurses so that those who desire to go up for the examination of the Medico-Psychological Association of Great Britain and Ireland are prepared to pass it. Two years' training in a recognized institution for the treatment of mental disorders is required before a nurse can take the examination.

During my stay at Stirling the weekly dance occurred, at which a nurse who had just passed this examination was called forward and the fact that she had successfully undergone the test was announced to the assembly by the superintendent, who presented her with the badge to which she was entitled. The system of examination by the Medico-Psychological Association, a medical body of national character, gives uniformity and dignity to the certificate as "mental nurse" while it leaves each institution free as to the details of training its own staff. The association has published a handbook which is used in many institutions, including those of Illinois.

At Stirling, with about 700 beds, there are seven graduate nurses, the matron, the night superintendent and five assistant matrons. The ratio of nurses or attendants to patients is one to five in the hospital, and one to ten in the other buildings. The night corps is half as large as the day corps. One of the assistant matrons is detailed as night superintendent, thus securing a responsible and closely supervised night service.

As to this plan of Dr. Robertson's, I can not do better than to quote from his thirty-sixth report as follows:

> The care and treatment of the insane in this asylum has proceeded along the same lines as in the past. The object has been persistently kept in view of hospitalizing the asylum, and year after year changes have been effected wherever possible, by which old and objectionable asylum features have disappeared, and hospital methods have taken their place. Mechanical restraint has been abolished, the locking up of patients in solitary confinement either by night or by day has been discarded, and all methods of management and mechanical or structural devices which were suggestive of prisons have been given up or done away with if possible. All features which were peculiar to asylums have been subjected to severe criticism, and unless there were good reasons for their retention they have also been replaced by hospital methods, which have in all instances been preferred. By the persistent application of these views for the last six years, the whole atmosphere of the asylum has been changed. Constant personal supervision and attention has taken the place of former restrictions to prevent the patients from indulging in insane manifestations. While it will always be true that treatment in an asylum will be based on compulsory detention and on the exhibition of superior force if necessary, in these respects it does not differ essentially from the maintenance of law and order in the ordinary community, and by the exercise of unfailing tact and of justice tempered by a sympathetic insight into the failings of the insane, it is possible to govern an asylum with almost as little resort to force, and with as few outbreaks of violent behavior as in any village of the same size.
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> In carrying out these ideals the medical staff of the asylum has been most ably seconded by the matron and assistant matrons. The head of the whole nursing staff of this asylum, both male and female sides, is the matron, as is the case in all our large general hospitals, and this arrangement has also been adopted at Bangour Village, Edinburgh, and at Kingseat Asylum, Aberdeen. Miss Jean D. S. M'Grigor (Victoria Infirmary, Glasgow), who discharges the duties of this important post most efficiently, is a certified hospital and mental nurse, and is assisted by a staff of eight assistant matrons, who are all well-educated women who have been specially trained for their duties. The night superintendent, and those in charge of the wards by day, are all certified hospital nurses, while the kitchen and laundry superintendents hold certificates from schools of domestic economy.
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> The creation of this supervisory staff of officials has been one of the innovations introduced into asylum service during the last seven or eight years, and while this departure was adversely criticised by some when originally started, it has gradually worked its way into favor by its obvious merits, and is now being adopted even by those who originally objected to it. The constant presence in the wards among the patients, both male and female, of these highly trained women of good social position has been attended by the most beneficial results, by the introduction of refinements and increased decorum, and by the diminution of forceful methods of management. There has also resulted a tightening up of discipline such as never existed under the former régime, when the responsible head of a group of nurses continued on terms of extreme intimacy with her subordinates, and when, selected for promotion from among her friends, was placed in charge of them. It was ask-

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1. Dr. Robertson has since succeeded Dr. Clouston as head of the Royal Edinburgh Asylum, Morningside.

ing too much of average human beings to expect that the shortcomings of one's most intimate friends should be faithfully reported, and when this was the keystone of a system of discipline, its failure was inevitable.

It is an indication of the success which has attended the system in operation here, that fourteen of our assistant matrons have, during the last five years, been appointed matrons of other institutions, and I am especially pleased to be able to record that two English asylums selected for the second time assistant matrons from this asylum to fill matronships on their staffs, and the secretary of state for the colonies asked for my assistance in the selection of a matron for South Africa.

In an earlier report, Dr. Robertson says:

It is recorded that ten years elapsed before official approval was accorded to Dr. Connelly's practice of non-restraint in the treatment of the insane, and many more years elapsed before this great reform was adopted by conservative physicians bound to old asylum traditions. We live under happier auspices, for after a probationary period of less than three years has the seal of official approval been placed on the developments mentioned above, and an impetus has also been given to the more extended employment of women on the male side of other asylums, since their introduction as a result of Dr. Turnbull's successful pioneer experiment in 1896. It is trying, however, to bear with misrepresentation, for example, that women have been employed instead of men because their wages were less. It is therefore necessary to state explicitly that this was not regarded as a reason at all for their employment on the male side here. It can not be denied that the services of four women can be obtained at the same cost as those of only three men, and one woman does as much work as a man when it comes to sick-nursing, personal attendance, bed-making, care of clothing, and household duties generally, and as this work is "natural and habitual" to her, she probably does it better. It must also be admitted that no other important advance in asylum management that I know of is attended by a diminution and not an increase in expenditure. Nevertheless, I do not imagine the public will regard this feature of the system with serious disapproval, if in other respects it is satisfactory. It may be interesting to mention that the saving effected here by the system was put to immediate use, and enabled us, without adding to our wages bill, to add to the numbers of our night staff. This accession of strength enables us to abolish altogether that "baneful" and unmedical practice to which his majesty's commissioner has referred, of habitually locking up patients at night in single rooms like prisoners—patients who were placed in our hands for care and supervision and for the treatment of a disease, and who, for want of an adequate staff, required to be kept in solitary confinement for ten hours out of every twenty-four.

Dr. Robertson's suggestions as to offering inducements for securing the best quality of employés are also interesting and suggestive. Regarding pensions for long service his thirty-sixth report says:

The backbone of the asylum service consists of the attendants and nurses, who are in immediate contact with the patients, and who have ultimately to give practical effect to every measure designed for the welfare and treatment of the patients. The demands continually made on the self-denial and the inteligence of mental nurses and attendants are infinitely greater than ordinarily occur in the practice of hospital or sick nursing, and it is desirable that the very best material in the country should be attracted to the asylum service. Very great improvement has taken place in this respect in my own experience, and it is continuing to take place, but there is still room for progress, and every measure that ameliorates the condition of asylum nurses and attendants receives careful consideration. Numbers enter the asylum service and leave again just when they are beginning to be valuable, and it is believed by the General Board of Lunacy that longer service would be obtained were pensions legalized by statute for long service in district asylums, as is the case in England and elsewhere.

Another expedient employed at Stirling and in other Scotch asylums for improving the service is to provide cottages and gardens for married employés, so that by these additions to their wages they can suitably maintain their families.

Again, a separate nurses' home for assistant matrons and women nurses was in process of erection at the time of my visit, and Dr. Robertson's report says as to its effect:

When this is occupied, our asylum nurses will be as well off, so far as their comforts are concerned, as the best provided-for hospital nurses. It is hoped by supplying these privileges, and thus meeting the wants of nurses, that the asylum will attract as good a class of applicants as our general hospitals, and that the best material will be available for the service that makes most demands on its practitioners. If in the future the asylum does not get its share of the personnel desired, it will not be owing to the conditions of service, but solely to a preference being given to sick nursing as compared with mental nursing.

At first it was with the greatest difficulty that Dr. Robertson obtained suitably trained nurses to act as assistant matrons. He tried in vain at Glasgow, Edinburgh and London, but no one would come. Finally, by persistent efforts, he made a beginning because of friendly relations with Edinburgh. The training has proved so good for matrons of other institutions that at the time of my visit twenty-one assistant matrons had been taken from Stirling as head matrons for other institutions. The effect of the good appointments thus secured has brought many applicants to Stirling, and the pick of the best nurses.

The employment of women nurses on men's wards is one of the marked features of this asylum. Some years ago it was begun conservatively with one or two women in the male wards by day; the number has steadily increased until about one-half of the nurses in the male wards are women, and the sick wards are in charge of women nurses by night as well as by day.

Another valuable feature is described in the words of the report of the General Board of Lunacy for 1903:

The disuse of single rooms, either by day or by night for the seclusion of noisy, restless or troublesome patients, and the absence of all forms of restraint or seclusion.

The commissioner of lunacy, in a report of a visit of inspection, makes the following statement regarding night supervision:

The night supervision of the patients continues to receive the prominent attention to which reference has been made in previous reports. There are in all twenty night attendants, ten on each side of the asylum. This gives a proportion of one night attendant to 33.7 patients. As to the benefit of such an extened night supervision on the mental health, habits and welfare of the insane in asylums there is now, fortunately, ample testimony; but in an asylum where the baneful method of locking up excited cases in single rooms during the night has been discarded, there can be no question as to the necessity of this numerically strong night staff. The close attention of the night attendants to their duties is secured by the appointment of a lady superintendent who supervises both the male and the female sides of the institution during the night.

Many patients are brought to the asylum by nurses or attendants sent out from the asylum for this purpose. While this practice is not compulsory, it is found to work well, and the escort of a nurse rather than an officer of the law certainly aids the hospital impression. The newly arrived patient is received by the staff physician and put to bed in the hospital as a sick person. If the case ultimately proves to be chronic the patient is carefully re-educated in personal care and habits, and

the laborious patience on the part of the nurses and attendants necessary to this end is well repaid by the notably clean appearance of the patients and by the absence of those hopelessly foul wards which are usually to be found somewhere in the ordinary institution.

A violence book is kept at Stirling. In explanation of this Dr. Robertson says that three-quarters of the excitement of patients could be avoided by tact; that when one tries to get at the history of an attack or violent outbreak on the part of the patient, this history omits the real cause. It begins with a blow given by the patient, for example, and much shrewdness is required to learn what irritation or provocation preceded that blow. The violence book proves doubly useful to record facts and to show accurately under what nurses the black eye and the bruise are most frequent. When a number of cases of violence are thus recorded as occurring under one nurse or attendant, they must, even if accompanied by explanation, discredit that nurse or attendant, and as patients can not be heard as accredited witnesses in their own behalf, it becomes the duty of a superintendent to discharge summarily a nurse or attendant on whom suspicion rests. A discharge on suspicion had just been made at the time of our conversation. The record contained in this violence book has proved so valuable at Stirling that the lunacy committee has directed the use of such a book in each of the Scotch asylums.

The atmosphere of homely comfort at the Stirling Asylum was especially noticeable. I recall a young slip of a nurse, of the attendant class according to our nomenclature, perched at the head of a bed occupied by a patient, a big elderly man who was restless and always wanting to prowl about. The nurse had slipped one hand through his arm to keep him in bed, while with the other hand she was playing checkers with another patient just emerging from a state of silent indifference and beginning to show an interest in his surroundings. The strength of that kindly hand was quite as effective as any one of the many systems of bed restraint which I have observed in use in various institutions, and the training of the assistant herself in dealing with the patients as human beings was going on at the same time. It was the attitude of a mother with a household of children, perfectly direct, simple and effective—the attention of the nurse, order, entertainment—all equally important and all secured by that method of apparently doing several things at once which every mother who cares for her own children learns by daily practice.

Again, when one saw a procession of old men going out beyond the gates to walk along the road, the most helpless led and encouraged by their smiling, rosy young nurses, one had again the comfortable feeling that these children of a larger growth were getting just what they needed.

Women in a state of acute excitement are frequently seen treated with complete bed restraint. Such patients were under the care of nurses at night, in small rooms with doors wide open and locks taken out; the patients were noisy and restless part of the time, but gradually quieted down under the tactful management of the night nurses, who used the same soothing care that a sick nurse uses.

That inevitable occupation of floor-scrubbing, in which one usually sees crisply-dressed nurses standing about and directing the kneeling patients, here was conducted differently. The scrubbing was done and well done, but it was by the attendants or nurses and patients together scrubbing side by side, which means a radical difference of relationship throughout. It meant that the scrubbing was not regarded merely as a task but as a part of the "re-education" of a patient. In this connection it is not amiss to recall that some time ago a young nurse from a celebrated Swiss hospital for the insane came to this country in charge of a private patient. After she was no longer needed by her patient she decided to see something of American institutions before returning to her home, and accordingly took a place in an American hospital. She said afterward:

> It is very different from Dr. Forel's hospital; here the nurses are so fine, they are dressed so nicely, they are so above the patients, they don't play with the patients; here we know exactly when the doctors will come, once or twice a day. There, the doctors come very often, we never can tell when, and always if we are not with the patients they say, "Why are you not playing with the patients?" There the attendant must do the disagreeable work and the patients, they do the pleasant work; but here, the patients, they do the disagreeable and hard work and the attendants do the nice and easy work.

Unquestionably the usual relation of the so-called nurse and the so-called patient in most institutions for the insane gives any intelligent observer the feeling of being in a topsy-turvy house. There seems to be no better way to restore the true relation of patient and nurse than to establish under adequate medical supervision a system of true nursing which shall direct every act of the day and of the night, sleeping, eating, working and recreation alike to one primary object, the improvement and care of the patients. Incontrovertible as is this proposition in theory, the actual working hypothesis is too often the reverse—to get the work of the institution, the feeding, the scrubbing, the exercise, all done in an abstract way for a lump sum of humanity by a lump expenditure of energy to result in the lowest possible cost per capita.

Dr. Robertson is on the staff of the medical school of Edinburgh University and gives his lectures at the Stirling Asylum, which is an hour distant by train from Edinburgh. The regular medical staff consists of two physicians, the pathologist, and the unsalaried assistant or interne; but in summer a number of internes are taken during the vacation terms of the schools. Then every patient in the asylum is carefully re-examined, all the usual tests being made so that all the patients, even of the most uninteresting chronic type, have the benefit yearly of an intelligent re-examination of their cases—a benefit conferred on the patient incidental to the proper training of students of medicine, it should be noted. The work of a pathologic laboratory is enthusiastically carried on here by a trained pathologist and assistant. There is a close relation between the laboratory of the institution and the central laboratory maintained by all the asylums jointly and located at Edinburgh.

In regard to the system of trained nurses in direct supervision of patients night and day, it is plain that the larger the institution the more does this system afford a safeguard to the superintendent and to the welfare of his patients. There are some admirable efforts to install such service in this country, and wherever the service is incomplete it is safe to say that the cause probably lies in the failure of the institutions to pay what nurses of the highest grade can earn outside. Indeed, this system in America would not result in a direct saving of money but in an increase of cost, since the usual pay of trained nurses in Great Britain is less than

half that ordinarily paid in the United States. In an examination of the relative cost of maintaining Stirling and the average Illinois institution, it will be seen by the accompanying table that the cost of salaries and wages in Stirling is only 53 per cent. of the sum paid for the same item in Illinois. At Stirling the assistant matrons receive from $25 to $50 per year less than do the men head attendants.

TABLE SHOWING CLASSIFIED AVERAGE GROSS COST PER CAPITA[2] PER ANNUM OF THE SIX ILLINOIS STATE INSANE HOSPITALS, COMPARED WITH THE COST AT THE HOSPITAL FOR THE INSANE AT STIRLING, SCOTLAND.

Items.	Illinois, 1906.	Stirling, 1906.	Illinois in excess.	Stirling in excess.	Percentage of excess.
Salaries and wages	$58.76	$38.36	$20.40	.....	53
Food	44.69	52.64	.....	$7.95	18
Clothing	9.72	8.12	1.60	....	20
Household, furniture, etc	9.87	7.74	2.13	....	27
Fuel, light and water	10.95	12.17	.....	1.22	11
Hospital (medical)	1.90	2.15	.....	.25	13
Laundry	1.19	1.31	.....	.12	10
Fees, taxes, etc	.00	9.55	.....	....	..
Tobacco	.00	2.46	.....	....	..
Grouped not comparable	13.91	.00	.....	....	..
	.....	$134.50	.....	....	..
Less 51 cents for the fractional differences in comparing U. S. money with foreign money	.....	.51	.....	....	..
Total gross cost per capita	$150.99	$133.99	.....	....	..

In private practice the nurse in Great Britain receives about two-fifths of the pay received in the United States; hence a nurse can be secured for institution positions at much lower rate there than here. Thus the system will cost more here proportionately than in Scotland; but if it is valuable for the patients, the public will justify the expense whenever it can be inaugurated.

As an authoritative corroboration of my own impression of the Stirling system of nursing supervision, I am pleased to quote Dr. Owen Copp, secretary of the Massachusetts Board of Insanity:[3]

> The quality of these matrons is worthy of attention. They are all high-class women, refined, educated, graduates of general hospitals for nurses, or otherwise trained in their duties. They are correspondingly well compensated, and move on the plane of officers, though in touch with every patient and employé. Their elevating and leavening influence over the lower and usually weaker ranks seems to me invaluable.

Doubtless some part of the excellent administration of Stirling should be credited to two features not easily secured in institutions already in operation. One point is the character of the buildings, which are one and two stories high and are admirably planned, the hospital building in particular having a combination of the best hospital features and simple homelike comfort especially needful in an institution for the insane.

The other point is that Stirling is a small institution, judged by our giantesque standards. There are usually a considerable number of patients at home temporarily, but the number of patients in the house is about 700, and counting all those on parole the population for which the superintendent is responsible is less than 1,000 souls. It is a primary proposition, recognized by all authorities, that nothing can outweigh the advantage to an institution of being small enough so that the superintendent himself can know the patients personally, and what is even more important, can know personally all his employés of whatever class.

The insane population of Scotland — more than 16,000 in number—is housed in institutions not one of which has more than 1,000 beds. It is significant that, notwithstanding the steady increase in the numbers of insane in that country, there seems to be no disposition to enlarge the existing institutions. New district asylums of about the same capacity are built as occasion demands. Evidently the Scotch have always known what we are gradually discovering—that the large institution is not necessarily more economical and that it has no other claim to consideration.

For more than fifty years the Scotch care of the insane has been carried on under the present general plan and has earned the reputation of being the most complete in the world. Every feature of modern scientific and humanitarian work may be found exemplified there with the exception of highly organized university clinic hospitals. Undoubtedly the best commitment service in the world is that of Glasgow. The central pathologic laboratory is a center of study, and the care of early cases in general hospitals, long urged by Sir John Sibbald, is making headway, while the mixed asylum and the boarding-out for chronic cases are of acknowledged excellence.

The General Board of Lunacy, consisting of three unpaid and two paid commissioners, has general charge of the insane, with powers to which those of the Massachusetts Board of Insanity are analogous. Each unendowed institution is supported by a tax levied on the district it serves and is managed by a volunteer board of local trustees.

It is aside from my subject to enter into a description of the administration of the insanity laws of Scotland. It may be said in fairness that the more closely the Scotch organization and the Scotch law are scrutinized, the more it is seen that the reason for their success lies in the fact that for half a century the system has been in charge of high-minded, competent people, absolutely unhampered by any sort of political control, and that these people have been enlisted in the public service of caring for the insane because they knew they would be unhampered by political control. Of the results which can be thus obtained Stirling Asylum is an inspiring example.

2. Because of a refund to the state made for clothing and incidentals under the law in effect when this table was prepared, the term "gross cost per capita" is used. It represents actual cost, however.

3. Am. Jour. Insan., 1904-5, lxi, No. 4, p. 55.

Prophylaxis of Typhoid.—The following rules for prophylaxis in nursing typhoid fever are recommended for nurses both in hospitals and on private duty. Isolate all dishes used by typhoid patients, wash them separately and boil daily. The sordes which collects on the teeth and mouth is a mixture of food fragments or broken-down epithelium and micro-organisms and is capable of conveying the infection. Use a separate thermometer for typhoid cases. Keep it in a solution of bichlorid 1 to 1,000 which is changed daily. Disinfect linen in a solution of carbolic acid 1 to 20 for two hours before sending to be mingled with other clothing in the laundry. Milk of lime is the best disinfectant for stools. Exposure of an hour is necessary for disinfection. The urine in a large proportion of cases contains the typhoid bacilli and should be disinfected; a solution of carbolic acid 1 to 20 may be used. Bed-pans, urinals and basins contaminated by vomited matter should be isolated, disinfected each time, and scalded daily. Separate syringes and rectal tubes should be provided and boiled after use. Tubs and wash-basins should be disinfected with carbolic acid. Special care should be given to hands and nails after contact with typhoid patients. Bedding should be subjected to steam sterilization after the case terminates.—*Nursing Record.*

HOW A GREAT STATE IS HANDLING THE TUBERCULOSIS PROBLEM.

WITH SOME REMARKS ON THE TUBERCULOSIS DISPENSARY OF THE PENNSYLVANIA DEPARTMENT OF HEALTH FOR THE COUNTY OF PHILADELPHIA.*

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PHILADELPHIA.

The platform on which Governor Stuart was elected pledged the administration to make war against tuberculosis. The governor immediately on his inauguration requested the commissioner of health to formulate a comprehensive scheme to carry out his promise to the people.[1]

The sum of $1,000,000 was appropriated in two sums, as follows: One of $600,000 under an act "to provide for the establishment and maintenance of one or more separate sanatoria, or colonies, in Pennsylvania for the free care and treatment of indigent persons suffering from tuberculosis, and making an appropriation therefor;" the other, of $400,000 provided for out of the general appropriation act, "to enable the department of health to establish and maintain, at such places in the state as may be deemed necessary dispensaries for the free treatment of indigent persons affected with tuberculosis, for the dissemination of knowledge relating to the prevention and cure of tuberculosis, for the study of social and occupational conditions that predispose to its development and for continuing research experiments for the establishment of possible immunity and cure of said disease for two years."

THE SANATORIUM.

Acting under this authority, the commissioner of health has proceeded along the lines indicated by the letter of the law. The legislature having by special enactment called attention to "the sanatorium located on the state forestry reservation near Mont Alto in Franklin County," the commissioner proceeded to determine on the suitability of that location for the more extensive establishment contemplated. This proved to be in every way desirable, having been selected by the state forestry commissioner, Dr. Joseph T. Rothrock, as the one reservation of the state best adapted for such a purpose. Geographic and topographic surveys were at once set on foot in order to determine on scientific lines, what portion of the reservation was best adapted for the object, as well as to make provision for a sufficient supply of pure water and for a system of thorough drainage. When taken over by the department of health, the camp at Mont Alto had accommodation for about 28 cases. Already accommodation has been provided for one hundred and forty patients and plans are under way to greatly enlarge the capacity of the sanatorium. At present only incipient cases are admitted, but to meet the very urgent need for some place where advanced cases may be sent, an infirmary has been planned at Mont Alto with a capacity of one hundred beds, having the double object of segregating these patients for the public welfare and of furnishing them with every opportunity for treatment. There will also be a hospital for cases of transient and intercurrent illness and for surgical cases.

The patients at the sanatorium, at present, are housed in specially constructed tents, though there is one model cottage after designs by the state commissioner, and others of the same kind are to be built. It is planned to erect fifty such cottages, each to accommodate eight persons. The cottages will be one story high and will be so arranged that they can be thrown open to the air, but will afford ample protection from storms. They will be twenty-five feet apart and placed on streets fifty feet wide. A number of pavilions are also planned for, with the same general construction as the cottages, but to accommodate twenty-four persons each.

Dining rooms will be in common, one for each four hundred patients. There will be bath houses provided with spray, douche, and shower baths, but no bath tubs. A modern steam laundry, equipped with disinfecting washes, is under way and plans for store rooms, servants quarters, a central dispensary, mortuary, and laboratory are nearing completion. An ice pond is in course of erection which will furnish ice suitable for cold storage purposes during the summer.

As patients gain strength they will be furnished light employment in gardening, husbandry, farming, carpentry and similar outdoor manual occupations, and when cured the effort will be made to find open-air situations for them. It is intended to establish a similar colony on one of the reservations in the western part of the state. Dr. Dixon anticipates that the sanatorium will in a few years have a capacity of 3,000 patients.

THE DISPENSARY SYSTEM.

In regard to the dispensary system, sixty-seven dispensaries have been established to date, one in every county of the state, either in the county seat or the largest and most accessible town. The dispensary in Philadelphia was established Jan. 7, 1908, and the success which has attended it depends on just two factors—one is the exactness of the methods of diagnosis and treatment, and the other is the ability to supervise the patients.

An interesting feature of the work has been the examination of patients, whose lungs may present more obscure or striking features, by means of the *x*-ray. The pictures have been taken by Dr. C. L. Leonard with a machine which is almost instantaneous in its action, requiring an exposure of about half a second, producing a plate remarkable for its clearness of detail.

At intervals the medical staff of the dispensary meets of an evening at the office of Dr. Alfred Stengel, who has supervision over the work, for purposes of discussion. At these meetings a comparison is made of the condition of the lungs of the patients as charted by the attending physician and as shown by the *x*-ray picture. It can be readily understood that this must lead to careful work, as no one likes to find himself in the wrong before his confrères on the medical staff.

METHODS ADOPTED.

All patients are followed into their homes by inspectresses from the dispensary, who show them how to avail themselves of the best opportunities for taking the cure that their homes afford. If no back yard or porch or roof is suitable, they are required to rest from six to eight hours a day in their bedrooms by the open window.

Some of the patients are at work, and with them the

* The address at the opening of the Tuberculosis Exhibit of the Pennsylvania Society for the Prevention of Tuberculosis, at Reading, Pa., March 18, 1908.

1. Dr. Dixon drafted the necessary bills which were passed by the legislature and became laws by the signature of the governor.

progress is sometimes slower, but by following instructions in regard to personal hygiene, the sleeping with their windows open, availing themselves of every opportunity for rest which their day affords, these patients, especially when in the incipient stages of the disease, show a gain in weight and a general improvement commensurate with those taking the cure under more favorable circumstances.

It is insisted on that tuberculous patients shall occupy a room alone, and that the inspectresses instruct them in the destruction of the sputum and in habits of cleanliness. The families are also given instructions and shown how best to protect themselves against infection. Further those members of the family who may have been occupying the same room or who show any suspicious symptoms are encouraged to come to the dispensary for a thorough examination in order to discover the disease while it is still in its early stages.

THE PROPHYLACTIC ELEMENT.

The prevention of the spread of consumption is quite as important in this movement as the cure of already existing consumption. Particularly is this true in relation to advanced cases, who after a first visit may be too ill to come to the dispensary. The responsibility of the dispensary is not done with such cases until some arrangement has been made by which they are properly cared for.

In one instance a family of eight were living in one room, and the father had consumption involving both lungs. It is almost inevitable that had this state of things lasted, several if not all the children, and the wife, too, would surely have contracted the disease. Another family of four, living in the same way, in which the mother had the disease, has also come under observation. It must be plain to everyone what a field for prevention such situations offer. By securing a separate room for the sick father or mother, or when this is impossible, by removing the patient to a hospital and by disinfecting the contaminated room, we surely prevent the development of other cases of the disease.

Of course, in such cases, if the children are too young to take care of themselves, it is necessary to secure their admission to some institution in which they will be properly cared for and educated. All this is part of the work, and we accomplish little if we can not handle these problems successfully.

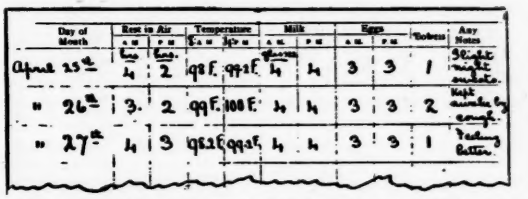
INCIPIENT CASES.

One of the most gratifying features of our work so far has been the relatively large number of very early and incipient cases that have applied. These patients are given free supplies of milk and eggs and are treated right in their own homes, with every prospect of a permanent cure, provided they will follow instructions and provided their homes are not too insanitary. Where the latter is the case, we send them away to the state sanatorium at Mont Alto. But we do not send patients away just because they are early cases and would do well there, for we know that such cases may recover right in the heart of Philadelphia, and we could swamp the sanatorium in a week if we sent all our early cases up.

EDUCATION IN HYGIENE.

Each member of our staff, of which there are five, divides his patients into two classes, which meet at a regular time every alternate week for instruction and a general talk. The patients are instructed in the principles of prevention and cure, the whole matter is explained to them and they are encouraged to ask questions and seek advice. They are also required to keep small record books (see illustration) in which they daily make notes of their temperature, the amount of milk and eggs taken and the number of hours spent resting in the open air, etc. Thus at a glance the physician can see the course of the cases during the past week, and by meeting regularly the patients soon become acquainted with each other, and there develops a friendly competition among them to see which can adhere most strictly to the treatment and show the best results. The treatment most emphatically does not consist in giving a little good advice and a prescription and in passing on to the next case. Every case is studied exhaustively, the conditions are recorded accurately and every detail of the patient's surroundings and daily life is thoroughly understood and discussed with him.

It may be of interest to state the results[2] in the first class of eleven patients, eight men and three women, which was organized in the first week of the dispensary's existence. Out of the entire class all have gained weight with the exception of one woman, who has just come out of a hospital, having undergone a severe operation, and may, therefore, properly be excluded in this computation. The total gain in weight for the other ten has been 29¾ pounds. The largest individual gain was made by a man who has been working steadily as a street car conductor. He has gained 6¼ pounds. The next largest



Day of Month	Rest in Air A.M.	Rest in Air P.M.	Temperature A.M.	Temperature P.M.	Milk A.M.	Milk P.M.	Eggs A.M.	Eggs P.M.	Tobacco	Any Notes
April 25th	4	2	98 F.	99 F.	4	4	3	3	1	Slight cold
" 26th	3	2	99 F.	100 F.	4	4	3	3	2	Kept [illegible]
" 27th	4	3	98 2/5	99 F.	4	4	3	3	1	Feeling Better

Sample page from the record books kept by the patients. The hours at which milk and eggs are taken, and the amount of each, are mapped out for each patient.

gain among the men was 4½ pounds by a man working eight hours a day regularly as a billing clerk. Among the women one had gained 5¾ pounds and another 3½ pounds. Of these eleven patients all are married and there are fourteen children among their families. These patients are not selected cases (five of them are advanced cases with cavities in the lung), but are among those applying when the dispensary first opened, and so were formed into the first class. The above class represents a relatively small number of those under treatment. We have had to date (May 1) 372 new cases. Were the cases to be selected from the whole number, even more striking individual results could be shown. Incidentally the street car conductor now shows a gain of 15¾ pounds.

FREE MILK AND EGGS.

The fact that the state will supply free milk and eggs to all those who can not afford to buy these necessary supplies is also a great boom. It is practically impossible to run a dispensary for tuberculous cases where free supplies can not be given. All patients who are ordered free milk and eggs are visited by an inspectress before they receive them, as, of course, it is necessary to know that they are too poor to buy them for themselves.

2. At the time of writing, March 18, 1908.

However, there has not appeared any spirit to take unfair advantage of the state's liberality, and many of the patients say at once that they can afford to buy these necessary supplies themselves. Nor are any cases treated at the dispensary who can afford to pay a private physician. The act provides that the state dispensaries are for "indigent" consumptives, and those who can pay are referred back to their regular physicians. Otherwise, it would be most unfair to the general practitioner.

But to show the extent of the state's bounty to indigent consumptives, it may be interesting to say that between January 7 and May 1 7,480 quarts of milk and 2,485 dozen eggs have been distributed gratuitously. As the work grows these figures will no doubt look small, for as long as there are deserving patients willing to do their best to get well from the disease the state stands ready to do its part in the cure.

Finally, while I believe the vast resources which the State of Pennsylvania has made available for this work, and the splendid organization being built up by the commissioner, now make the state work the most important factor in the crusade in Pennsylvania; yet we must not forget that it is by no means the only force at work, and I should be falling far short of telling all, did I not point to the Pennsylvania Society for the Prevention of Tuberculosis and the other private organizations and institutions at work in this field. They have done much and they will do more. It is the educational work gone before which rendered possible the state's action.

But the state can not accomplish the result alone, nor can the private institutions and organizations. Both are essential, both must be recognized. It is by a united effort, by cooperation, by the harmonizing of all the agencies engaged in this noble work, that we may confidently expect to accomplish our purpose—to see that day which is surely coming, when tuberculosis, from being the most widespread and destructive affliction of mankind, shall be an uncommon malady.

THE WHITE MAN IN THE TROPICS.

C. L. G. ANDERSON.

WASHINGTON, D. C.

To those who are impelled by necessity, or induced by interest, to visit the torrid zone, and relinquish the blessings which flow from exercise in the delightful climates of the earth, in temperate regions—to those who exchange their native countries, which yield the free and unbounded enjoyments of spontaneous health, for such as no care nor art can ever make agreeable—some cautions may be necessary, some precepts useful.—DR. BENJAMIN MOSELY, 1787.

Le climat n'est dans point resserré dans les circonstances physiques attachées à chaque local, il est cet ensemble lui-même; et tous traits caractéristiques par lesquels la nature a distingué les différent pays entrent dans l'idée que nous devons former du climat—CABANIS.

The United States, with the assurance of robust youth, has entered the tropics, and assumes and presumes to dictate to alien peoples, residing in different climes, their forms of government, trade regulations, modes of life, ethical standards, and to an extent, their religious beliefs.

However much I may sympathize with the natives of our tropical dependencies in having their repose and content disturbed, I acknowledge that my concern is not for them. The obligations of our government require a large number of white American men, women, and children to live and reside for long periods of time, or for life, under abnormal conditions which cause harm to themselves and deterioration of the race. These American citizens have received no warnings that unless their residence in the tropics is merely temporary, their children will be handicapped, and their grandchildren, if any, will see the finish of the family.

While necessity has compelled the authorities to heed the recommendations of medical officers to limit the service of soldiers and sailors in hot climates, yet the tendency in government reports and information about our tropical possessions is to paint them in rose color, to invite employés into the civil service, and to encourage permanent residence in these hot climates.

Human morbidity and mortality are greatest at the equator, and diminish as we approach the poles. This holds good for both natives and aliens. I do not believe much in statistics, but according to Cullimore, the annual death-rate is as follows:

From the equator to 20 degrees latitude, 1 death to each 25 inhabitants.
From 20 degrees latitude to 40 degrees latitude, 1 death to each 35 inhabitants.
From 40 degrees latitude to 60 degrees latitude, 1 death to each 43 inhabitants.
From 60 degrees latitude to 80 degrees latitude, 1 death to each 50 inhabitants.

By the tropics, I mean the equatorial zone extending around the earth between the Tropics of Cancer and Capricorn.

The inclination of the earth's rotative axis to the plane of the ecliptic measures about 23.30 degrees and is limited by the Tropic of Cancer in the northern hemisphere, and by the Tropic of Capricorn in the southern hemisphere. On June 21 the sun is vertical over the Tropic of Cancer. It then starts south, and about September 22 is directly over the equator. Continuing its southward journey, it reaches the Tropic of Capricorn about December 21, when it turns back toward the equator, which it crosses again about March 21.

Outside these tropics, or turning points in the temperate and polar zones, the sun's rays can never fall vertically on the earth. Only between the tropics is the sun ever directly overhead. Practically, days and nights are equal near the equator and there is very little dawn or twilight.

As most of our heat is due to solarization, the long tropical day accounts for the greater heat, while the blanket of moisture always present prevents the radiation of heat by night. It should be particularly noted that these two conditions, heat and moisture, so favorable to the growth of bacterial life, are always present in the tropics, the only checks on the multiplication of inferior forms of life being warring species and lack of food. The latter is seldom wanting.

Every day is summer time in the tropics, and it is this continuous heat and humidity that is so enervating to the white races. In equatorial regions, vegetation, as a rule, is ever green, though the leaves are continually falling and being renewed.

Between the tropics lies one-third of the area of the earth, and four-fifths of this is ocean. Nine-tenths of the islands of the globe are situated within the tropics, and most of the mainland is in close proximity to the sea. This gives a marine climate, which means that the temperature is very equable (hot day and night) and that a high percentage of moisture (75 to 95 per cent.) is always present. While the temperature rarely ranges above 95 F. in the shade in the daytime, it seldom drops below 75 F. at night. It is this constant association of heat and moisture and their unvarying persistence, together with the actinic effects of tropical light, that wear out white men in the tropics.

Instead of the four regular seasons of the temperate zones, there are but two seasons, dependent not on

changes of temperature, but on a variation in the amount of rainfall. In Spanish parts of the tropics it is customary to speak of the dry season as summer (*verano*), and of the wet season as winter (*invierno*). At some places this difference is marked, while at others they say that in the wet season it rains all the time; in the dry season, only every day. This is literally true of certain sections, as along the coast of Veragnas; but there are other sites within the tropics, even on the seacoast, where rain seldom falls, as at Ceara on the northeast coast of Brazil, and at Aden on the Red Sea. In the Philippine Islands the wet and dry seasons, generally speaking, are each of about six months duration. In Panama and the Canal Zone the dry season lasts only three and a half months, extending from January 1 to April 15. In India, generally, the hot and dry season lasts from January 1 to June 1 of each year.

As a result of the greater heat at the equator the heated air rises while the colder air from the poles flows along the surface of the earth toward the equator. The rotation of the earth from west to east changes these air currents into northeast and southeast winds, which are so constant in direction and duration as to be utilized by sailing vessels, and constitute the trade-winds of commerce.

Now it is a general law in meteorology that the windward side of mountains, especially if near the sea, is covered with fogs and drenched with rains, whereas the leeward side will be refreshed with the dry descending wind without precipitation. Even where there is but a comparatively narrow strip of land between the oceans, as in Panama, this difference obtains. The annual rainfall at Colon is about twelve feet, while across the low divide at the city of Panama, on the Pacific Coast, only forty miles away, the rainfall is but six feet and sometimes less. So the climate of a place is the sum or resultant of its latitude, altitude, topography and geology of its soil, proximity to sea or mountain, prevailing winds, humidity and precipitation, sunshine or cloudiness and electric states of earth and atmosphere. The stage of civilization and sociologic conditions of the people have a large influence on the welfare of strangers.

A saving factor in the tropics is altitude, each 250 feet of elevation being equivalent to one degree of latitude from the equator. Much of the land area between the tropics, comprising the elevated plains and mountain ranges, while geographically tropical, climatologically is temperate. It is only on these plateaus that the white man has been able to establish himself, and it has been only the Latin race, particularly the Spaniard, who has been able to do this. Quito, Bogota, San José de Costa Rica, Guatemala City and Mexico City, though between the tropics, do not suffer from tropical climates; and in these capitals the Spaniard has taken root. The climate of Petropolis is radically different from that of Rio de Janeiro a few miles away. Benguet differs from Manila, and Simla and Jardeeling from Calcutta, Madras and Bombay.

The English are still exotic in India; the Spaniard remains a resident in tropical America. The Spanish people, by reason of their southerly origin and skin pigmentation, the best fitted of Europeans to colonize the Tropics, have failed, except on the plateaus and in the high valleys; and even there it is largely by fusion with the native Indian thus forming a race of *mestizos* or hybrids, that they have been enabled to perpetuate their kind. On the coastal plains (the purely tropical sections), the Spaniard has not been able to maintain a footing.

Africans are in possession of the West Indies. The old and populous cities of the Spanish main are now given over to the negro and negroid mixtures. To-day, Cartagena, Colon, Bocas del Toro, Puerto Limon, Port-au-Prince, Bridgetown, and Kingston, are inhabited mostly by negroes. A few places, like Panama and Manila, are so important as trade-centers, or seats of government, that white races keep them alive by a constant renewal of fresh blood.

For several hundred years the populous white races of Europe have had plenty of room to expand in the temperate zones: in the United States, Canada, Argentina, Chile, Australia, and Siberia. The populations of all the large cities in the temperate zones are congested. The outlet is in the direction of least resistance and where nature beckons kindly.

The world is becoming crowded. The inhabitants of the earth have doubled during the last hundred years. Not simply in certain congested areas as formerly, but in all the pleasant places of the earth, arable lands in temperate zones, tillable profitably under natural conditions, are now mostly occupied. Intensive farming, irrigation of arid tracts, and reclamation of swamps, will furnish relief for a number of years.

The natural boundaries which separated nations and races have been effaced by steam and electricity. The sea, instead of being a barrier, has become a broad, frictionless highway for quick and easy access. Mountain chains have been tunneled, and wide deserts traversed by railroads. Aerial transportation lies within the near future.

Commercial strife between nations is now acute. Warring strife between races is inevitable. The lands of the tropics are the richest in the world, and yield the greatest return for the least labor. It would seem that here is the natural outlet for the tension in the temperate zones, and a fertile field for conquest.

For control, yes; for colonization, never! The tropics belong to the colored races, and in them they must work out their own salvation through the slow evolution of the centuries.

No white colony has been able to maintain an independent existence in the tropics. When whites invade the torrid zone, they must first subjugate and combat the colored natives, and then keep up a continuous warfare with nature. Under free competition, whites can not compete with blacks within the tropics; and it is only by control of the colored natives, equivalent to enslavement, that white men can exist in the tropics and keep up stable and efficient government. To-day there is control and regulation of the persons and labor of the colored natives in all well regulated tropical countries.

England governs India by relays of officials from home, and not by representation. She is particularly careful not to disturb racial, tribal, or caste customs, and her control will collapse whenever a united India is formed. Even in our sister republic of Mexico, men are practically bought and sold, and can go away from plantation or mine only on pass. This is as it should be. The natives have neither the desire, intelligence, nor energy to govern themselves according to our standards; the white man can furnish the brains, but can not keep up manual labor in the tropics; so there is a fair exchange of efficiency.

To force on an unwilling people a foreign form of

government always results in failure. To attempt to force free government and American institutions on colored barbarians, as we are trying to do in the Philippines, is not only an expression of gross ignorance, but distinctly unnatural, criminal, and sinful. To assume that an act of Congress, or that the proclamation of a president, however benevolent, can replace the gradual evolution of ages, is to deny the data of science and the teachings of history. The idea or theory that we can by legislation ingraft on the people of the tropics those principles of government and standards of civilization which obtain among northern races, seems to me as erroneous and presumptuous as does the claim that by missions we can radically change their religious beliefs.

Since the pandemic of the fallacy of the equality of man, pseudo-statesmen, mushroom philanthropists, and false prophets of all kinds have been disturbing the natural course of nature in futile, but tiresome, and expensive attempts to abrogate the laws of nature. The new gospel of liberty induced the French to free the blacks in Haiti, and the negroes immediately massacred the whites on the island.

A great deal has been written by incompetent observers tending to show that white people can live well and continue to live well in the tropics. The general tenor and impression conveyed by United States official reports is that our intertropical dependencies are fitted for permanent residence by whites, and that the natives are competent for self-government. This sort of literature is positively harmful and dangerous.

Popular opinion in our country is soon expressed in Congress, and it enacts laws which are inapplicable in the tropics. While a few individual whites may even be benefited by sojourn in the tropics, and many can pass years there in comparative comfort, yet well marked bodily changes always follow a long residence, and continue even on return to a cooler climate.

Reports by chiefs of service and premature gushing letters are equally misleading. The chiefs live under the best conditions, and make frequent visits to the states, or other temperate regions; the women are often carried to the transport on a stretcher. The correspondent who accepts passes on government steamers and entertainment at the hands of a steering committee becomes blind to the seamy side of things, and dwells on the beautics of waving palms and coral strands. Official and other anticipated inspections do not view usual conditions, and never the worst. Visiting congressmen, however good their intentions and great their zeal, get only snapshots from a steamer touching at the principal ports. They see only the coast towns, *en fête* —palm arches, frothy oratory, and brass bands. When the visitors leave, the Filipino takes off his laundered clothes, patent leather shoes, and derby hat, and reappears as he truly is—a semi-savage, with breech-clout and bolo.

Besides racial and climatic antagonisms, there is bound to be unrest from orders emanating from a seat of government far away, and ignorant of local conditions in the colony. When the notion of independence has foolisnly been encouraged among the natives, revolutions are bound to spring up periodically. Equality, independence, fire-arms, and fire-water are dangerous combustibles to put into the hands of a subject race.

History is full of the records of white colonies stranded and coming to grief in the tropics. When Europe awoke from the lethargy of the dark ages, and sailed beyond the Pillars of Hercules, it was along the equatorial belt that new lands were first discovered and settlements attempted. Prince Henry the Navigator and his followers crept down the coast of Africa, while with Italian pilots, Spain invaded tropical America, and was quickly followed by France, Holland, and England. In our expansion in the East and West Indies, we should not forget the dreadful price Europeans have paid for their holdings. The conquerors—Spanish, English, French, and Dutch—soon discovered that they could not work in the tropics as at home without disease and death, so they made the natives work for them —enslaved them. But here they made the fatal mistake of requiring a white man's work from a tropical Indian; so the natives perished rapidly.

When we consider the effects of change of climate and season on the physical features of the earth, and on animal and plant life, it is really wonderful to behold man charging around the globe, and nearly from pole to pole, seeking conquest, fame or riches. Man can live under the most diverse conditions, but he can not there develop his best qualities and propagate robust offspring.

I assume that it is unnecessary to prove that the races of mankind thrive, develop, and reach perfection within well defined climatic areas. Fauna and flora can only exist and persist as distinct species inside certain zones bounded by isotherms. The whole scheme of nature is to preserve and perfect the race at the expense of defective individuals, and to perpetuate that race or people who are best adapted to live under the conditions of a given environment. This environment in course of time becomes the natural habitat for those people. When races emigrate from their natural habitat and try to live under strange conditions, they perish; their blood may be continued by union with native stock; or the survival of the fittest under the new environment may propagate another kind of people. In either case, the characteristics of the old race (immigrants) are lost. The mongrel results of miscegenation are seen all over the tropics in places where a purely white race can not persist.

Health, strength, and long life result only from harmony between the individual and the universe that surrounds him. The same rule applies to race. The common belief, that after a few months' residence in the tropics the white man becomes "acclimated," is erroneous. There is no such thing as acclimatization. By constant care and vigilance a man can adjust himself to his new surroundings, and may escape discomforts, ills, and dangers he would otherwise suffer. For a time, the white individual can do three to five times as much work as the native, but it is at the expense of the vitality he should transmit to his children, and preserve for age. In the tropics, weaklings die off or return home. Those who adjust themselves to the new environment may continue for a generation or two; but the white man seldom lasts beyond the third generation, and then sustained only by long visits home.

The tropics belong to the black and brown races, and there they have sense enough to remain. They have certain inherent rights, one of which is to be let alone; and if ruled, not to have northern ideas inflicted on them. The white man has no business in the tropics. When he occupies them he brings ruin to himself and misery on the natives.

It is unnecessary for us to speculate on or await the results of our own experiments in the tropics. We have at our doors, and partly within our territory, the

West Indies. When first discovered by Europeans these islands supported a happy, gentle, joyous people, thoroughly in accord with surrounding nature. Hispaniola (Santo Domingo and Haiti) alone contained at least a million people. Spain began to enslave their bodies and save their souls. When tired of slaying the Indians, the Spanish soldiers hunted them with dogs, which fed on their flesh. When captured alive, the *padres* burnt them at the stake, holding the cross before their eyes. In twelve years there were not enough Indians left on Hispaniola to work the mines and plantations, so the Spaniards stole forty thousand natives from the Lucayas (Bahamas). These, too, were killed or committed suicide. Too late, they tried to save the Indian by importing the African. The negroes found the same, or a more favorable climate than in Africa; could stand, what the Indians could not, the white man's tasks; so they increased and multiplied, and now possess the islands of the Caribbean.

Spain and France, separately and conjointly, owned San Domingo and Haiti, and each failed. Out of 32,000 soldiers, the French lost 15,000 men in two months, trying to recover Haiti from the blacks; while at the same time Toussaint l'Ouverture died from the cold in a French fortress. The English then tried to establish themselves on the island, but were driven out by the climate, with the loss of 45,000 men.

History is filled with disasters from men getting out of their natural environment. Pizarro lost a fourth of his men by verruga in the rarefied air of the high Andes. Napoleon lost a large army in Russia, and another in Egypt, not so much from fighting as from the climate. Dr. Kane told us that "an Arctic night and an Arctic day age a man more harshly than a year anywhere else in all this weary world."

Formerly, service in the tropics was looked on almost as certain death; the usual time for the disappearance of a regiment was five years. Civilians suffered to a like extent. Of every regiment of a thousand men sent to Jamaica, it was found that four to five hundred perished during the first eight months. A traveler records that out of a regiment stationed at Fort Augusta, Kingston, there were left only a quartermaster and a corporal.

Sir Francis Drake took the cities of Santo Domingo and Cartagena in 1586, but lost so many men from disease that he was forced to retire. Many years later, in 1741, the English again took Cartagena, but the climate drove them out. The same thing occurred at Havana, and the expedition against Santiago was abandoned on account of the mortality from disease.

After several attempts, Patterson's well-planned colony was driven from the isthmus of Panama by the climate, at the close of the seventeenth century.

In 1726, Hosier lost heavily from disease before Porto Bello, and in 1780, General Darling captured the castle of San Juan with 1,800 men, but only 380 lived to get back to Jamaica. It was in this expedition that Nelson contracted his tropical liver.

Spain fought a losing fight with the tropics for four hundred years, and it was the climate, as much as the American soldiers, which finally drove her out of the West Indies and the Philippine Islands.

The flotas and galleons of Spain in the tropics were frequently rendered powerless by the ravages of disease. Notable examples were the losses under Don Domingo Justiniani, commodore of the Guarda Costas, at Santa Marta, in 1729; and those of the galleons of Don Manuel Lopez Pintado, in 1730 before Cartagena. I am, of course, well aware of the rôle played by mosquitoes in the propagation and infection of at least two tropical diseases, and that by taking infinite pains under favorable conditions some of the dangers of the tropics can be eliminated. The essential factors of the climate, however, will always continue to exist.

As late as 1898, our magnificent little army, the Fifth Corps, went to pieces in six weeks before Santiago; and if to-morrow we had to place a large force in the tropics, particularly in the face of an enemy, it would be practically impossible to apply prophylaxis against infection by mosquitoes, to say nothing of combating dysentery, plague, and cholera. If opposed by a native force, immune to the climate and diseases of the tropics, our handicap would be still greater.

In the tropics, the white man can not live with, compete with, nor govern the colored man, superior in numbers, under terms of political equality. After three hundred years of conquest and holdings, at the expenditure of thousands of lives and millions of money, the British are only hangers-on in the West Indies. In 1834, the English government emancipated their negroes, which was well, and paid the slave-holders without civil conflict, which was better and wiser than we did. But they committed the blunder of enfranchising the freed slaves, and thirty years later the United States repeated it.

By reason of liberty and the suffrage, Africans are actually in possession of most of the West Indies. The whites have found the conditions intolerable and unprofitable, while the blacks have rapidly increased and acquired passive possession of the soil. In Barbados, the proportion of blacks to whites is as much as fifty to one. No wonder Great Britain is abandoning her forts and withholding her subsidies!

For years the labor of the West Indies and of the Guianas, has been done largely by Hindu coolies. These East Indians are imported under five-year contracts, and give satisfaction to their white employers. On being granted political equality, the negroes refused to work, and have degenerated into the most worthless people on the face of the earth. It is astonishing that the United States adopted this useless and discarded labor to build the Panama Canal. After three years' trial of the West Indian negro, the Canal Commission has been forced to replace him with the Spaniard, the Italian, the Hindu, and the Greek.

In our successful colonization in temperate zones—United States, Canada, Australia, Argentina—we have lost sight of the failures of our fellow emigrants—Spanish, French, Dutch, and English—in the tropics. The quick amalgamation of colonial America into the independent United States was not a result of the union of the white colonists with the native Indian, nor with the African, who came at the same time, but of the fact that Europeans found here the same climatic conditions under which they had lived and were bred. It is not from political or sociologic reasons that the negro has never flourished north of Mason and Dixon's line. Even the Spaniard, who at first had such a large share of the United States, and who then was the first rate power of the world, has been forced further south to his own environment.

There have always been statesmen and economists who considered colonies, and attempts at colonization, a burden, expense, and menace to the safety of the home government. Adam Smith, from the commercial point

of view, had this to say about colonies: "After all the unjust attempts of every country in Europe to engross to itself the advantages of the trade of its own colonies, no country has yet been able to engross to itself anything but the expense of supporting in time of peace, and defending in time of war, the oppressive authority which it assumes over them."

We have at home so many evils to remedy and faults to correct that it would be well to refrain from attending to other people's business.

Americans have little regard for either the sanctity or the value of human life. Railroads, factories, mines, automobiles, and firetraps kill us by the hundreds; preventable filth diseases, adulterated foods, polluted waters, and crowded habitations carry us off by the thousands every year. I affirm that we give Manila and Panama better sanitary supervision than we have in New York or Washington.

If we figure up, in lives and dollars, the cost of our expansion in the East and West Indies, it would be truly appalling. The four or five hundred millions we have spent on the Filipinos in the past ten years, expended with equal energy at home during the same period, would have abolished most of our tuberculosis, typhoid fever, and other avoidable diseases. We are justly called wasteful, spendthrift, and boastful. Must it also be said that we are an ignorant people, unmindful of the lessons of experience? Shall the verdict of nature and the teachings of history go unheeded?

SUMMARY.

1. When a species is well adapted to the conditions which environ it, it flourishes; when imperfectly adapted, it decays; when ill-adapted, it becomes extinct.
2. When a white man, native of a temperate zone, goes to the tropics, there occurs a biologic reaction of his system to the new environment, and a readjustment of co-ordination between his vital processes.
3. In the tropics, the white man, individually, can exist; racially, he can not persist.
4. Acclimatization is not possible.
5. No superior race can successfully govern an inferior race, superior in numbers, with equality before the law.
6. Only by partial enslavement of the colored natives, superior in numbers, can the white man rule and govern the tropics, and it is only by relays of fresh representatives he can continue his sovereignty.
7. No colony of northern origin has ever been able to lead a permanent and independent existence in the tropics.

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THE USE OF GONOCOCCIC VACCINE IN TWENTY-SIX PATIENTS.

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So satisfactory has been my experience with gonococcic "vaccine" or "bacterin" during the past few months that I desire to describe briefly my impressions regarding its use and to report the salient points from the histories of a few patients who have been cured by this treatment. I say cured by this treatment, for in spite of the fact that other measures as urethral injections and irrigations, internal medication and massage of the prostate were used in conjunction with the vaccine, the results were much more prompt than I had ever been able to obtain with these same remedies before beginning the use of the bacterins.

A free streaming of lymph, fresh from the circulation and laden with opsonins, should be promoted and maintained in every focus of infection. Wright has shown that the locality in which bacteria cultivate themselves is deficient in anti-bacterial substances on account of the sluggish circulation and the clotting of lymph in the sinuses. He also calls especial attention to the paralytic action brought to bear on the leucocytes by the tryptic ferment liberated from the disintegrating pus cells in abscess cavities and sinuses, and to the futility of attempting to cure them by vaccine therapy unless they are emptied frequently and flooded with opsonic fluid fresh from the circulating blood. These facts are particularly illuminating when considered with the condition of affairs found in the inflamed prostate. Here we note the effect of the ferments liberated from the pus cells; the proteids being promptly converted into albumose which I have found to be present constantly in the inflamed prostate and to be of distinct value in the diagnosis of such conditions. A correlation of these facts readily shows that out treatment by prostatic massage has underlying it curative factors of which we were formerly unaware. The question of autoinoculation by massage of the prostate must also be considered. As the extent of such inoculations can not be known this part of the treatment or manipulations of gonococcal joints should not be done at the time of injecting the vaccine as an overdose may be thrown into the system.

We can not overestimate the importance of a careful examination in every instance and the institution of appropriate treatment along with vaccine therapy, which should be employed as an adjunct and not to supplant other forms of medication. Success will depend on the recognition of these conditions, on secondary infections and on the time at which the injections are made. Gonococcic bacterin only affects the gonococcus and may leave other micro-organisms to perpetuate the inflammation. For this reason microscopic examinations should be made and other vaccines injected or other measures employed to restrict the action of non-specific germs.

The matter of "personal" or "stock" bacterin is one of considerable interest and importance. As far as I am able to judge from my own experience there is very little variation in the gonococcus and about as good results are obtainable with the stock vaccine as with the personal. The difference in the severity and course of the disease in different individuals is due almost entirely to the varying resistance of the host. I have used the stock vaccine marketed by Mulford & Co., Philadelphia.

So far I have now given the bacterin treatment to twenty-six patients and feel no hesitation in saying that I have been able, in nearly all cases, to obtain more satisfactory results with it than with the various forms of treatment previously used. Eight of these patients had chronic prostatitis; two acute prostatitis; two epididymitis; one a periurethral abscess; three urethral stricture; three urethro-cystitis and one cystitis.

Until recently I have not given the vaccine to patients during the acute stage of gonorrhea, but have waited until the subsiding stage. Injections of ten million gonococci were given to one patient, however, with a profuse discharge and very acute symptoms. He began to improve after the second injection and made an unusually quick recovery in spite of many disadvantages in

not being able to take the proper care of himself. He was entirely cured after the fifth injection and has had no return of the discharge or symptoms. Syphilis had been acquired a few months before the gonorrhea was contracted. He received oil of sandalwood internally and urethral injections of argyrol.

In no instance was a patient made worse by the injections, except that in a few cases there was a slight increase in the discharge during the negative phase when the initial dose was too large. Almost invariably, in cases in which the gonococcus was without doubt the cause, there was improvement which lasted from three to seven days after the injection. My best results have been obtained with doses varying from five to fifty million gonococci. In acute gonorrhea the initial dose should not exceed five or ten million, but may be repeated somewhat earlier than when larger amounts are given. The injections were made in the subcutaneous tissue of the buttock, as here the minimum amount of pain is produced. It is well to begin with fifteen million in chronic cases and gradually increase the amount at subsequent injections according to the reaction produced. Usually the succeeding injections should be administered before the improvement of the previous one has entirely disappeared. This varies from five to eight days.

In most cases the vaccine treatment was supplemented with urethral irrigations and injections, prostatic massage when indicated, and suitable internal medication. From five to eight injections were required for the average case, but more in cases in which recrudescences occurred. I will describe briefly the histories of two patients with the infection so deeply seated that invariably such cases are difficult to cure by the usual methods.

History.—Dr. X., one of my first patients, came to me on account of a persistent and recurrent prostatitis. I had been treating him in an irregular manner for about eighteen months; the urethra would clear up entirely at times, not a thread being present in the urine, but the prostate could not be freed from pus. Alcoholic or sexual indulgence would nearly always bring back the urethral discharge in which gonococci could be demonstrated. The vaccine treatment was instituted and continued with local urethral treatment, prostatic massage and internal medication as previously given. He claims that much more benefit was received from the treatment after the injections of bacterin than had been obtained from the same treatment before these injections were given. After eight hypodermic injections of vaccine he seemed entirely cured and has had no further relapses in spite of alcoholic and venereal excesses.

History.—Mr. Y., aged 26, was referred to me on account of a gonorrheal urethro-cysto-prostatitis of ten years' standing, with constant recrudescences. Malarial infection was almost as deeply seated as the gonococcal infection. The attacks of malaria always brought on the discharge and but for presence of the gonococci he would have thought it due entirely to the malaria. Considerable improvement followed the first injection. The discharge and bladder symptoms disappeared after the third injection and the prostatic enlargement was greatly reduced, while after the fifth injection all of the trouble seemed entirely cured and the urethral shreds had disappeared. Not feeling sure, however, that latent infection might not still be present three more injections of vaccine were given. As far as I can judge now, the patient is well. The prostatic secretion is practically normal, both in quantity and quality. Sexual intercourse was indulged in April 6, without my permission, and was not followed by any return of the trouble.

These cases were selected as they represent a type of conditions which we find most difficult to cure permanently. Several others belong to this class, but most of the others thus treated were milder in character and responded equally well or even more satisfactorily to the bacterin therapy. When used judiciously I feel sure that by appropriate administration of vaccines we have a valuable adjunct in the treatment of gonorrheal conditions.

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BERI-BERI WITHOUT A DEFINITE RICE FACTOR.

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On Oct. 23, 1901 the Dutch ship *Nederland* dropped anchor in San Francisco Bay and her master sought the out-patient office of the U. S. Marine Hospital in that port. Here he told one of the tales of sea horrors which officers of this service must listen to, as long as owners are covetous and navigation laws are insufficient. A tale not of brutality of man to man, this, but of a long voyage, poor provisions, scant water, and finally out of the mysterious deep, this strange sickness which made strong men weak even to death. There had been no sickness on the voyage from Hamburg, though the "beans were bad" and water ran low. So the master made port at Santa Rosalia, Lower California, and with refilled tanks put out to sea. A few days later the men noticed a great weariness and weakness in the legs. They could not go aloft and no persuasion could make them move quickly. Then the dragging legs began to swell and the weariness to increase. This ran from man to man, one dying "from ruptures which came." Finally the mate was stricken, and the master by tremendous effort brought his crippled crew and short-handed ship to port at last. Now he had his mate and seven seamen to be treated, pending final disposition at the hands of the Dutch government. So to the hospital came a message to send both ambulances for eight cases of beri-beri, and as I was serving there as interne these cases came under my observation, from their coming ashore in a ship's boat until their final discharge, December 14, at the request of the Dutch government.

I had never questioned the diagnosis which seemed so apparent at the time, until this year, when I read a book on "The Cause and Prevention of Beri-beri" by W. L. Braddon, an officer of the Malay States government. As his book is an emphatic advocacy of the rice theory, and as he recognizes a ship disease resembling beri-beri, I wish to review these cases in the light of his observations, aiming to place them in the proper category.

The first thing noticed in these men was the gait of those who were able to walk. It was with feet wide apart, plunging and yet with a hesitancy about commencing each step. It appeared to be a combination of the ataxic and steppage gaits. In all the cases the temperature ran a nearly normal course, the respiration averaged 20 and the pulse ran between 90 and 100. The urine of all the cases was free from albumin and sugar. The following is a synopsis of each case on examination:

CASE 1.—H. K. (Permit 247), age 20.

Onset.—Four weeks before admission, with pain in back and head, swelling of legs, nausea, but no vomiting.

Physical Examination.—Legs and feet edematous, dyspnea and palpitation of the heart on slight exertion. Pain and tenderness on pressure along course of nerves of legs and feet. Diminished power in muscles of legs, areas of anesthesia on

legs. Knee-jerks diminished. Romberg's sign present. Heart and lungs normal.

Blood Examination.—Small mononuclears, 24 per cent.; large mononuclears, 8 per cent.; polynuclears, 63 per cent.; eosinophiles, 5 per cent.

This man still complained of pain a few days before his discharge; his legs were swollen, and he was unable to walk without assistance.

CASE 2.—H. F. (Permit 248), age 18, a native of Germany.

Onset.—Three weeks before admission, with swelling of the feet, nausea and vomiting, feeling of weakness, no headache, no pain in the back, no soreness of the gums.

Physical Examination.—Edema of both feet and lower part of legs. Knee-jerks active right side, diminished left side. Loss of power, both legs. Hyperesthesia and anesthesia in definite areas of both legs. No Romberg's sign. Heart impulse violent, a systolic murmur at apex of heart, accentuated second pulmonic sound. Slight dulness over left apex of lungs, sounds normal. Abdomen showed tenderness over liver and spleen, no enlargement.

This patient grew much stronger, but at the time of his discharge still walked with difficulty.

CASE 3.—M. C. (Permit 249), age 23, a native of the Danish Islands.

Onset.—Four weeks before admission, with swelling of legs and weakness, but no pain. Nausea, palpitation. No soreness of the gums.

Physical Examination.—Edema of both feet, no loss of power, no atrophy, areas of anesthesia on the soles of both feet. Presystolic murmur at aortic area. Pulse small, rapid, and irregular. Lungs normal Abdomen tender over liver and spleen. Liver enlarged.

At the end of a few days the heart murmur disappeared and the man grew much stronger before his discharge.

Blood Examination.—Small mononuclears, 19.5 per cent.; large mononuclears, 10 per cent.; polynuclears, 68 per cent.; eosinophiles, 0.7 per cent.; basophiles, 0.7 per cent.; myelocytes, 1 per cent.

CASE 4.—A. N. (Permit 250), age 37, a native of Russia.

Onset.—Three weeks before admission, with loss of appetite, nausea, weakness, and swelling of legs. No soreness of gums.

Physical Examination.—Edema of legs, both knee-jerks lost, no anesthesia or hyperesthesia. Vision in both eyes lessened, hearing poor. Complained of pain on bending knees. Heart normal. Lungs normal. Abdomen, liver and spleen tender. Ascites present. This patient had persistent ascites, difficulty in vision, and difficulty in walking up to the time of his discharge.

CASE 5.—I. B. (Permit 251), age 20, a native of Germany.

Onset.—Weakness, edema, vomiting, vertigo, pain in head and legs, dyspnea and palpitation.

Physical Examination.—Edema of both legs from the hips. Knee-jerks absent, areas of anesthesia in both legs. Legs stiff. Romberg's sign present, steppage gait. Heart normal. Pulse small, regular and rapid. Lungs normal. Abdomen tympanitic. Liver and spleen not enlarged. On this patient's history a week later appears a note that he had nose bleed every morning, and from November 11 to the date of his discharge he complained of formication all over the body, but especially on the inner side of the thighs. At the date of his discharge he had pain on walking and numbness in the legs.

CASE 6.—C. T. (Permit 252), age 20, a native of Germany.

Onset.—Two weeks before admission, with weakness, swelling of feet, pain in legs and head, dyspnea and palpitation.

Physical Examination.—Slight edema of feet, tenderness along superficial nerves, no areas of anesthesia nor hyperesthesia, no loss of power, knee-jerks normal, no Romberg's sign. Heart normal. Pulse rapid but regular.

This patient had little difficulty in walking, and so was able to desert November 7.

CASE 7.—S. B. (Permit 253), age 20, a native of Sweden.

Onset.—Two weeks before admission with weakness, edema, dyspnea and vomiting.

Physical Examination.—Edema of both feet and legs, legs stiff. Little difficulty in locomotion. Both knee-jerks absent. No loss of power in legs. Romberg's sign present. Diastolic murmur at apex of heart, diastolic murmur in aortic area, second pulmonic sound accentuated. Pulse regular, rapid and full. Lungs normal. Abdomen tender over the liver; tympanites.

This patient improved very rapidly, but still had some pain in the legs at the time of discharge.

CASE 8.—O. H. (Permit 255), age 26.

Onset.—Two weeks before admission, with swelling in legs and feet, dyspnea on exertion, and difficulty in walking. No vom..ing, slight soreness of gums.

Physical Examination.—Edema, pain in feet and legs, not localized to nerves. Anesthesia to touch on anterior surface of legs, pain sense present, power diminished. Walks with heel base extended, no Romberg's sign, no atrophy. Right knee-jerks gone, left present. Heart normal. Pulse rapid, full and regular. Lungs normal. Spleen and liver not tender or enlarged.

This patient deserted.

Treatment.—These patients were all placed on a diet of milk, eggs and fresh vegetables. After an initial dose of calomel, salts were given in small doses three times a day to influence the edema. For the nervous symptoms strychnin sulphate and one of the silver salts were given.

Beri-beri (Japanese, pirri-pirri-formication) is defined by Manson as "a form of peripheral neuritis, which occurs endemically and epidemically, characterized by edema, implication of the neuromuscular system of the central organ of circulation, absence of trophic skin lesions, paresis of the muscles of the head and neck, of marked implication of the organs of sight, hearing, taste and smell, and of the mental functions, troubles of locomotion, paresthesias of various descriptions, especially in the lower extremities, marked hyperesthesia of muscles involved with subsequent atrophy."

The paresthesias of beri-beri are segmental and not zonal. In early cases the skin areas supplied by the second and third sacral segments are anesthetic to cotton-wool touches. Later comes languor, fatigue on slight exertion, dyspnea and tachycardia, and, depending on the variety, edema, which is not present in the "dry" form. The knee-jerks may be exaggerated at first; later they are lost and the affected muscles atrophy.

The pathology of beri-beri consists of a parenchymatous degeneration of the nerves and a congestion of the stomach. It resembles the class of affections produced by ergot or the other cereal parasites as well as the neuritis due to alcohol or arsenic.

Braddon points out that:

1. Every beri-beric in the Orient is a rice-eater.
2. Persons on rice-free diet do not get beri-beri.
3. The importation of machine-milled rice into any part of the world is followed by beri-beri.
4. The users of home-milled rice do not get beri-beri.
5. If from any cause the home supply is exhausted, beri-beri will break out on the importation of machine-milled rice.

He, therefore, concludes that beri-beri is due to a saprophyte in the rice pericarp which invades the dead decorticated rice-grain or aleurone.

In the primitive preparation the rice is husked in a mortar and then boiled, causing the pericarp to adhere to the aleurone, but giving the rice a dull appearance. The adhesion of the pericarp prevents the invasion of the aleurone by the toxic agent, and rice so prepared does not cause beri-beri. But, on the other hand, a final step in the machine milling of rice is its being passed through leather polishers, thus removing the pericarp, whose broken parts mix with the kernels and allow the toxic agent free access to the rice grain, a step which produces a finer-looking grain, but a more dangerous article. Braddon sounds a note of warning against the

rice-mill in its present form and suggests boiling the rice before milling to cause adhesion of the pericarp as a prophylaxis against beri-beri. He is of the opinion that the growth of beri-beri in this country will depend on the methods of milling employed in the rice-growing states. So insistent, indeed, is Braddon on his rice theory that he is inclined to discredit any reported cases of beri-beri occurring in the absence of a rice factor in the diet. He points out two ways by which the rice factor may have been unwittingly introduced:

1. By the use of foodstuffs adulterated with rice-powder.

2. By the use of food which has been stored in bins once occupied by rice.

He also describes a ship disease, a form of ptomain poisoning, with gastric symptoms, fatigue and edema, but no nerve implication.

To return to the crew of the *Nederland*. These men lived on ship's bread, salt meat, and beans. From an occidental ship owner's standpoint, rice was far too great a luxury for a merchant crew. The men all spoke of the beans as being "mouldy," and this may have introduced a ptomain factor, though the disease rather followed the slow incubation period of beri-beri than the rapid course of ptomain poisoning.

With regard to the other symptoms of Braddon's ship disease, fatigue and edema, these also occur in beri-beri. The nausea and vomiting present in several of these cases might belong to ptomain poisoning, but the morbid anatomy of beri-beri shows a congested stomach, and some gastric symptoms would be expected. As for rice-bins, these are not so common in European ships as in those plying between the ports of the Orient, which carry native crews and regard rice-bins and great cooking-pots as much a part of equipment as anchors. At this late date I am unable to deal with the question of the adulteration of the ship's bread with rice-flour, but adulteration is usually practiced to cheapen the production of an expensive article, such as arrowroot. Would it be worth while to adulterate hardtack? Braddon's disease shows no nerve implication. How many of Manson's symptoms and signs were present in these cases?

Atrophy was not observed, as the oldest case was only of four weeks' standing when received at the hospital. The men left before any atrophy appeared, and it was not possible to follow them after discharge.

In one case only were disturbances of special senses of sight and hearing noted, while it is very hard to judge of mental disturbances in north-country sailors. The cases showing hyperesthesia were extremely sensitive to touch or grasping of the muscles in the affected areas.

We found in every case edema, dyspnea, tachycardia or palpitation, languor, fatigue on exertion; in every case but one hyperesthesia and anesthesia, in one case definite formication, in one case disturbed vision and hearing; in every case but two, trouble in locomotion, varying from slight stiffness to inability to stand. In every case but two, we found involvement of the knee-jerk, in three cases Romberg's sign was present, and in all cases but one there were pains in the affected muscles.

In the absence of a rice or other toxic grain element in the diet, unless the ship's bread was contaminated, the rice theory will not suggest a cause for what appears to have been an outbreak of true beri-beri.

I have to thank the Surgeon-General of the Public Health and Marine-Hospital Service for permission to report these cases, and also the medical officer in command, U. S. Marine Hospital, Port of San Francisco, California, for copies of the case histories.

HYPERNEPHROMA OF THE KIDNEY,

WITH METASTASIS TO THE MANUBRIUM STERNI, SIMULATING ANEURISM OF THE AORTA.*

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PHILADELPHIA.

The term hypernephroma has been applied to a new growth that, while exhibiting considerable variability in histologic arrangement, still presents the general structure of adrenal tissue. It may involve the adrenal gland itself, or be situated in some other organ or tissue. In the first instance it is to be looked on as a hyperplasia of normal tissue, while in the second it is believed to arise from misplaced so-called adrenal "rests." Accessory adrenals, or misplaced adrenal tissue, is said to be not uncommon, and has been found not only in the immediate vicinity of the adrenal gland, beneath the capsule of the kidney, in the substance of the kidney itself, but also in the renal and solar plexuses, in the broad ligament and the ovary, in the testicle, between the testicle and the epididymis, along the spermatic vein, in the liver and in the retroperitoneal connective tissue.

The exact histogenetic position of the hypernephroma is not yet definitely established. The macroscopic and microscopic characters of the tumor have been fully described in the literature. Hypernephromata may be small and benign, remaining confined to the tissue in which they originate, or large and malignant, breaking down the characteristic capsule by which they are surrounded, and involving contiguous structures, or penetrating a vein, and giving rise to more or less widespread metastases. In this respect they bear an analogy to adenomata, which, while ordinarily benign, may at any time assume malignant qualities. There is, however, no necessary relation between the size of the neoplasm and its degree of malignancy.

The kidney is the most common seat of primary hypernephroma, while secondary growths have been observed in almost every tissue of the body, especially in the bones. The latter may be the sole seat of metastasis, and the secondary growth may be the first indication of the disease. On the other hand, the metastatic growth may appear many years after surgical removal of the primary growth.[1] In one instance pulsation was observed in a secondary hypernephroma of the tibia.[2] A single metastasis is a peculiarity of hypernephromata. Retrogressive changes often occur in the neoplasm, such as necrosis and fatty metamorphosis, and hemorrhage may result.

The tumors vary considerably in size, and the symptoms to which they give rise correspond in general with

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*Read before the Association of American Physicians, May 14, 1908.

1. Paul Clairmont (Arch. f. klin. Chir., 1904, lxxiii, 620) reports a case in which, almost ten years after surgical removal of a tumor of the kidney, a hypernephroma developed at the bifurcation of the trachea.

2. von Bergman: Verhandl. d. Deutsch. Gesellsch. f. klin. Chir., xvi, Congr., 1887, 30.

those caused by other forms of neoplasm. Small growths may altogether escape clinical recognition and be discovered only at autopsy.

Hematuria appears to be less common in connection with hypernephroma, both generally and as an early symptom, than with other forms of malignant disease of the kidney. The amount of hemorrhage is extremely variable, as are likewise the intervals between attacks. The bleeding may take place spontaneously or be induced by various causes, such as physical exertion, manual examination or cold. A point in favor of hypernephroma as compared with other forms of malignant disease of the kidney is the long period of time over which attacks of hematuria are sometimes repeated. In the absence of a palpable tumor the site of pain in connection with such attacks is an indication as to the organ affected.

The amount of urine is likely to be diminished, and microscopic amounts of blood, as well as albumin and tube casts, may be present. Pain over the affected kidney, apart from hematuria, is not uncommon. It may be an early symptom, and, like hematuria, it may be present for a long time before the actual disease becomes manifest. It is sometimes radiating in character or referred to the testicle on the corresponding side.

A palpable tumor is present at some period of the disease in most cases, though rarely as the initial symptom. Cachexia is more commonly absent than present. Digestive derangements may be superinduced by pressure from the growth or as a result of reflex influences. Occasionally painless varicocele, not disappearing in the recumbent posture, may develop rapidly in a case of hypernephroma of the kidney. Fever has been noted in some instances.

Nephrectomy is the only permissible treatment when the condition is recognized, except in the presence of multiple metastases and of complete immobility of the tumor.

While most common in adult life, hypernephromata have been observed at all ages, and even in the newborn. Men appear to be the victims in greater number than women. Neither kidney seems to be more predisposed than the other.[3] The affection may last from a few months to a number of years. While not common, it can scarcely be said to be rare.

I have had the opportunity of observing a case of hypernephroma of the kidney in which a secondary growth in the manubrium sterni was mistaken for an aneurism of the aorta, its exact nature, as well as the presence of the primary growth and of other secondary growths, being discovered only at autopsy.

Patient.—A married white woman, aged 60, born in Ireland, was admitted to the Philadelphia General Hospital Feb. 5, 1907, complaining of pain and swelling in the upper extremities.

History.—Her father had died at 75; her mother at 50, from asthma and dropsy. A brother had died at 40 from an unknown cause, and one sister in infancy. A second sister had died insane. The patient had never been pregnant. Menstruation had begun at 15 and had been regluar and painless until the menopause at the age of 45. The woman had used tea and alcohol excessively, but she denied venereal disease. She had had measles and chicken-pox in childhood, and pneumonia at 51. She had suffered from bronchitis and had had both cataractous crystalline lenses removed. She had been treated earlier in life for swelling of the knees thought to be rheumatic, and her kidneys were at one time said to have been diseased. She had also complained of pain in the hips. Eighteen months before coming under observation the patient had noticed a swelling at the upper part of the sternum, which had gradually increased in size until it attained the proportions of a "clenched fist." There was no pain, and the patient could not recall whether there had been pulsation or not. Under treatment with an ointment the swelling diminished considerably in size. Some six months later the patient had attacks of vomiting independently of the ingestion of food, all readily relieved by treatment. After the lapse of a year or more the swelling again exhibited increase in size for a time, subsequently to become smaller. There had been no difficulty in swallowing, no unilateral sweating, no dyspnea, no palpitation. The appetite was poor, the bowels constipated. There had been gain in weight rather than loss, and the patient was quite well nourished and free from cachexia. She occupied the dorsal decubitus principally, and slept much of the time.

Examination.—The skin of the face was pallid and was marked by numerous dilated capillaries. The pupillary area of the right eye was the seat of a dense opacity, while the left pupil was irregular in outline. Neither pupil reacted to light. The pulse was small, infrequent, arrhythmic, alike on both sides, and the vessels were thickened. The manubrium sterni was the seat of a swelling of considerable size, yielding evident pulsation synchronous with that of the heart and having an expansile character. The tumefaction yielded a sense of elasticity on manipulation and a dull note on percussion. No thrill was palpable, but a loud systolic murmur was audible on auscultation over the mass, together with the second sound of the heart. The apex beat was visible in the fifth left interspace outside of the midclavicular line. The cardiac impulse was of moderate intensity, but a distinct thrill was palpable. The action of the heart was markedly arrhythmic. In the aortic area a short, squeaking systolic murmur was audible and transmitted into the carotids; it could be heard also at the ensiform cartilage. A systolic murmur was audible likewise at the apex of the heart. Except for a few moist râles at the bases, the lungs exhibited no abnormality. An *x*-ray examination made in the hospital laboratory failed to show the presence of an aneurism of the aorta, while the right, and perhaps also the left, ventricle appeared to be dilated and displaced to the left. A few small glands (calcified) were visible at the apices of both lungs and in the mediastinum. Numerous dilated superficial vessels were visible on the lower extremities. The urine contained albumin and ganular casts. The number of leucocytes in the circulating blood was 13,000 to the cubic millimeter. The abdomen exhibited no abnormality.

Subsequent History.—While under observation the patient complained of occasional pain referred to the sternum, while the tumor diminished in size. On April 25, 1907, retention of urine set in, with overflow dribbling, so that catheterization became necessary. On April 28 there were occasional attacks of vomiting after food, and the general condition was growing gradually worse, with increasing weakness. On May 9 a typhoid state had developed, with low, muttering delirium and incontinence of urine. Finally coma set in and death took place on May 16.

Autopsy.—On postmortem examination the body was found to be well developed, with rather an excess of subcutaneous fat, although the abdominal muscles were thin and pale. Over the manubrium sterni was a small lemon-sized tumor of soft consistency, which on incision exhibited a grayish color. This was found to involve the entire manubrium and the cartilages of the first and second ribs at their junction with the sternum. The right kidney contained at its lower pole close to the pelvis a new growth 4 by 5 cm. in dimensions, of firm consistency and gray color, and containing areas of softening. The uterus at its fundus contained two small chestnut-sized growths, and the left lung a calcareous nodule at its apex and a smaller nodule at its base. On histologic examination the growths in the kidney, lung and uterus and sternum exhibited the structure of hypernephroma. The heart was dilated and its musculature the seat of fatty metamorphosis. The

3. Keen, Pfahler and Ellis (Trans. College of Physicians of Philadelphia, 1904, xxvi, p. 267) found the tumor on the right side in 18 of 26 collected cases; while Albrecht (Arch. f. klin. Chir., 1905, lxxvii. 1073) found the right kidney involved in 9 cases and the left in 19.

aorta was atheromatous and its valves sclerotic. The lungs were congested and edematous. The kidneys were the seat of passive congestion, with probable parenchymatous changes.

The age of the patient, the evidence of arteriosclerosis, the presence of a pulsatile and expansile tumor in the course of the aorta, a murmur on auscultation, improvement in the dorsal decubitus together suggested the existence of aneurism, but this conclusion was not confirmed by the *x*-ray findings. The exact nature of the disorder, however, remained undiscovered until disclosed by postmortem examination.

1019 Spruce Street.

Clinical Notes

A CASE OF NON-TRAUMATIC HEMOTHORAX.

F. T. BILLINGS, M.D.
PITTSBURG, PA.

Non-traumatic hemothorax is a rare condition. It is generally due to the erosion of a vessel due to some pathologic lesion. In tuberculosis of the lung, the pulmonary arteries or their branches are those generally involved. The tuberculous process weakens the walls and in many cases numerous aneurisms are formed. This condition appears to be present more commonly about the middle of the lung and at the periphery (West).

Search through the literature gives ample proof that but few cases of non-traumatic hemothorax occur, or at least, are reported. Sticker and Dieulafoy both affirm that hemorrhage (non-traumatic) from the lungs can take place into the pleura. A case has been reported of hemothorax due to tuberculous erosion of an intercostal artery, and W. H. Walsh[1] reports two cases, recorded by Andral, of hemorrhage into the pleura—"pleurisy had long existed and in both instances the patients were tuberculous." Dr. Watson (1862) records a remarkable case in which an enormous hemothorax had caused enlargement of the left side of the chest, effaced the intercostal spaces and pushed the heart over to the right of the sternum. The condition was caused by "scrofulous ulceration," destroying two of the ribs, and laying open one of the intercostal arteries. Recently T. B. Richardson[2] has reported a case of hemothorax, probably due to secondary carcinosis of the lungs.

The following case, I desire to record.

Patient.—H. T., aged 35, married, occupation clerk, presented himself November 13, with the following history:

History.—Previous diseases, none of importance. Family history, negative, except that one brother died at 27 of some "lung trouble." Past history, pain in left arm and shoulder and cough at intervals during past two years; loss of 23 pounds in weight; sputum examination negative. Present symptoms, same as previously, with fatigue and dyspnea and slight dyspepsia; no hemoptysis or night sweats.

Examination.—This showed impaired resonance in both supraclavicular regions and in left infraclavicular. Auscultation was negative, except that a few sibilant râles were heard at the inferior angle of left scapula during inspiration. Heart sounds were weak, but otherwise normal. Blood examination showed hemoglobin 70 per cent., leucocytes 10,000, red blood corpuscles 5,400,000. Urine was normal, except for a hyaline cast and a few red blood corpuscles. Calmette's ocular reaction gave a negative result. Tuberculin hypodermically gave a positive result.

Treatment.—The patient was placed on the open-air treatment, with weekly administration of tuberculin in the form of bacillen emulsion (B. E.), starting with 0.0000001 gm.

Subsequent History.—On January 1 the patient had a febrile attack, from which he apparently recovered completely. An examination of the lungs showed at this time a considerable extension of the lesion beyond that found at the first examination. Until January 9 the patient seemed to be improving and had gained another pound. On the morning of that day his wife called me by telephone, saying that her husband had shown a few streaks of blood in his sputum, and requesting that I come to see him. I arrived at the house at 10 a. m. and found the patient in bed, nervous and apprehensive; temperature, 98; pulse, 84. After a few moments' conversation he was reassured, and then announced his intention of getting up. He was advised, however, to remain quiet for a day or two before returning to business. His wife and I went into an adjoining room. In a few moments the patient, who had slipped on a dressing gown, joined us, remarking that he felt perfectly well. The opportunity was taken to go over his lungs again. Findings were about the same as on January 1. The examination completed, he resumed his seat in a reclining chair. In 10 or 15 minutes he complained of a sharp pain low down in the left axillary region. This soon became agonizing. He was immediately placed in bed and hot applications employed. His condition rapidly became grave; pulse, 130, weak and small; face and mucous membranes pale; expression anxious; dyspnea, restlessness, cold extremities and a moderate amount of thirst. The symptoms all pointed to shock and probable hemorrhage. There was no hemoptysis, excepting a few streaks of blood in sputum. In about two hours he had improved; pulse dropped to 120 and pain had ceased; color and breathing much better, and general appearance encouraging. It was explained to his wife that there had probably been bleeding from an artery into a cavity of the lung, but presumably this was comparatively small in amount and had ceased. I then left, promising to return in a few hours, leaving instructions that the patient must not move under any circumstances, and that I be telephoned for immediately if any unfavorable symptoms developed. I returned to the house about 5 p. m. and found the undertaker preparing the body. The patient had died an hour before. His wife had been unable to reach me at once and had called another physician. Unfortunately an autopsy under the circumstances was impossible. I felt assured, however, that there had been a hemorrhage somewhere, and with this theory in view made a careful examination of the body. Over the left of the thorax on percussion dulness was found; a large trocar was borrowed from the undertaker and plunged into the left pleural cavity in the sixth interspace, axillary line; 40 ounces of blood were evacuated.

It seems possible from this case to draw the following conclusions:

1. That on the morning of the day the patient died, there was absolutely no fluid in the chest, which simply showed the signs of a moderate tuberculous infection.

2. Although purely surmise, we may believe that a branch of the pulmonary artery, on the periphery of the diseased lung, had become involved in the tubercular infection, the walls weakened and an aneurism formed; this ruptured and the blood following the course of least resistance, tore through the weakened lung tissue and pleura into the pleural cavity, thus giving the acute pain and symptoms of shock.

3. The immediate causes of death were probably shock, loss of blood, and sudden displacement of, and interference with, the heart, by the large amount of fluid quickly filling the left pleural cavity.

1. A Practical Treatise on Diseases of the Lungs, 1871.
2. Dominion Med. Monthly, 1903, xx, 193.

Invention of Matches Credited to a French Physician.—A French exchange states that the small town of Saint-Lothian in the Jura Mountains of eastern France has recently erected a modest monument to a local physician of nearly a century ago, C. M. Sauria, who is credited with having been the first to invent matches lighting by friction alone.

ABSCESS OF WHARTON'S DUCT: ACUTE RANULA.

RICHARD H. JOHNSTON, M.D.
BALTIMORE.

History.—In December, 1907, Mrs. C. M. consulted me for severe lancinating pain in the mouth and tongue. She had not been able to sleep for two nights. Speech was thick and she talked with the greatest effort. For several months she had had from time to time a swelling under the angle of the lower jaw which would cause some pain for a few days and then disappear. The present attack was the worst she had experienced.

Examination.—The mouth was opened only with the greatest difficulty and the tongue could scarcely be protruded between the lips. On raising the tongue a soft, rounded mass presented itself at the opening of Wharton's duct. The submaxillary gland was swollen and painful. There could be no doubt that the swelling was an abscess of the duct and the inference was that somewhere in the duct a stone had formed.

Treatment and Result.—After applying cocain, the abscess was opened by a deep, long incision. There was a gush of pus, followed by the ejection of a semisolid mass. Relief was almost instantaneous. The ejected mass proved to be a small stone surrounded by a soft substance having the appearance and consistency of cooked macaroni. The stone had probably formed some time before and caused the frequent swellings of the submaxillary gland by obstructing the duct. The escape of the stone was fortunate, since its removal is usually attended with some difficulty on account of its tendency to adhere to the walls of the duct.

Salivary calculi are made up of phosphate and carbonate of lime and some organic matter. They are usually spindle-shaped and vary in size. In Puzy's case the calculus was 1½x1x½ inches and the weight was 7.6 gm. When the duct is entirely obstructed a ranula forms and this may suppurate as in the above case. The patient in this case was well in a few days and has had no return of the trouble.

919 North Charles Street.

ESOPHAGEAL STENOSIS:

A NEW METHOD FOR THE DIAGNOSIS AND MANAGEMENT OF CERTAIN FORMS.

J. HENRY SCHROEDER, M.D.
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CINCINNATI.

Some years ago I made a brief reference to a method for overcoming spasmodic stenosis of the cardia. Since then I have had opportunity of employing and demonstrating this procedure where other methods were not available. So far as I know this method has not been previously described.

After esophageal stenosis has been determined by the introduction of sounds of proper size, it depends on the aspects of each individual case what further instrumentation is permissible. The object of passing a sound through a constricted, or partly obstructed, portion of the esophagus is either to dilate the passage, or to reach the stomach, as with the stomach-tube. The passage of a sound may in itself give information as to the nature of the obstruction.

Complete and most persistent obstruction to the passage of food, and especially to the sound, may be caused by purely spasmodic contraction. This may occur at any place in the esophagus, but perhaps most frequently at the cardia. It is considered that cardiospasm may be so unyielding as to give rise to diverticula of the esophagus.

Frequently such spasmodic strictures will relax when continued, firm, even pressure is made with the sound, but this is not always true. Such procedure, on the other hand, is very likely to give rise to abrasions of the mucous membrane of the esophagus which, especially at the cardia, may in itself give rise to continued spasm.

There is also constant danger of perforating the esophagus, as in the unsuspected presence of carcinoma or an aneurism, or of opening of esophageal varices.

The following method is, probably, the safest and simplest for overcoming esophageal stenoses that may be overcome. It substitutes a water column for the solid sound. It is contraindicated in all cases where the simple introduction of a sound or stomach-tube is contraindicated.

Having located the site of the obstruction with the olive-tipped bougie, a stomach-tube of proper size is passed to the obstruction. The tube has an opening only at its lower end and no lateral fenestræ. At its middle is inserted a bulb. The tube is now filled with water, raised, and its upper end compressed with the fingers. Firm, even, continued pressure is now made on the bulb by the operator. A column of water is thus pressed against the obstructing tissue. If the obstruction is purely spasmodic, it will suddenly relax and the water is felt to pass from the tube, which follows instantly and easily.

If the obstruction is organic and incomplete, the water will gradually pass, by this method, through the obstructed portion, but the tube does not follow. A similar result will follow if the obstruction is partial from organic cause but is made complete by a spasm.

The safety of this procedure lies in that before the esophagus can be injured or ruptured in the presence of an unyielding obstruction, the water will return along the side of the tube. In compression from an unsuspected aneurism the danger of perforation will also be lessened.

22 West Seventh Street.

IODIN IN TREATMENT OF ULCERS.

J. W. ROOP, M.D.
APACHE, OKLA.

About two years ago I began using iodin for ulcers by painting the skin up to the edge of the ulcer. This produced such good results that I ventured to use it on the surface of the ulcer itself. The effect has been excellent. I have found this application of iodin a very efficient means of converting a septic ulcer into a clean, granulating wound which heals readily. I use it in a concentrated form or a saturated solution in alcohol and apply it every day or as often as is required until the slough separates, when an ordinary dusting powder and gauze may be applied. The iodin should then be discontinued, but if any unhealthy or superfluous granulations appear, it should be again applied. It quickly changes a phagedenic ulceration into a healthy condition. I have used it in many forms of mouth and throat troubles by painting it over the surface. It will arrest and cure pyorrhea alveolaris. I would suggest the free use of it in cancrum oris. The application is usually painless. It is extremely serviceable in infected wounds.

CEREBROSPINAL RHINORRHEA.

D. N. KINSMAN, M.D.
COLUMBUS, OHIO.

History.—Mrs. H., aged 44, never seriously ill, was, in October, 1907, subsequent to an attack of influenza, forcibly clearing the posterior nares by inspiration through the nose when she detached a scab of the size and appearance of a vaccine crust. Immediately there was a profuse discharge of a saltish fluid from the right nostril; this has been continuous ever since. She visited me at my office Jan. 5, 1908.

Examination.—She was a large woman, fat, and of good color. Her forehead, cheeks and chin were covered with a shield-shaped eruption (eczema rubrum) due to constant use of handkerchiefs to keep the discharge from soiling her clothing. She could divert the discharge either to the nostril or pharynx at will, by inclining the head forward or backward. She had been treated by plugging the nose and the use of argonin, arsenic and sodium bromid and belladonna. The chronicity and quantity of the discharge, which escaped at the rate of three drops a minute, convinced me I was not dealing with an ordinary rhinitis.

Examination of Fluid.—The fluid was transparent and in it were two flakes of mucus, floating. On standing, there was a deposit of epithelial cells from the nares. No cells from the cerebrospinal cavity were seen. The fluid was alkaline, with a faint reaction for sodium chlorid. The application of heat and nitric acid gave no deposit. On cooling, a faint white cloud appeared, showing the presence of albumose, and it reacted with a reddish-orange deposit to Fehling's test.

According to Simon, the above reactions in a discharge coming from the nostrils indicate that it is cerebrospinal fluid. Traumatisms of the skull, spinal punctures and cerebral tumors causing a breach of the membranes enveloping the brain have made us familiar with the chemistry of this fluid.

A letter, dated February 24, says that the discharge continues. A careful examination when I last saw her failed to show any visual or muscular defects of the eye. There were no cerebral disturbances and the reflexes were normal.

Sidney I. Schwab and John Green, Jr.,[1] report one case with a summary of twenty cases of cerebrospinal rhinorrhea reported by Dr. St. Clair Thompson,[2] all the known reported cases at that time (1899). From this paper we learn that about 75 per cent. of the patients suffer from visual defects, such as optic neuritis, optic atrophy and hemiopia. The diagnosis in such cases rests on the analysis of the fluid. The prognosis as to recovery is unfavorable, though the danger from infection does not seem to be great. Patients have lived from five to ten years. There is no treatment which promises relief.

A CASE OF VINCENT'S ANGINA WITHOUT SPIROCHETES.

COMMENTS ON THE USE OF DIRECT SMEARS IN DIAGNOSING ACUTE EXUDATIVE AFFECTIONS OF THE THROAT.

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CHICAGO.

It is the belief among many physicians that acute diseases of the throat with exudate can be promptly and conclusively diagnosed from the direct smear alone, thus saving whatever time would elapse before the culture is ready for examination. Because of this I am often pressed for a decision from a direct smear, although I have certain firm convictions concerning the value of such examinations.

It has been my experience that when direct smears from an exudate show only cocci and the tendency, therefore would be to diagnose an absence of diphtheria, cultures on Loeffler serum may produce characteristic diphtheria bacilli. On the other hand, there are, from other exudates, microscopic pictures in which there are bacilli so much like diphtheria organisms that a positive diagnosis of Klebs-Loeffler infection would be made and the culture disprove this conclusion. I have, therefore, been rather dogmatic to students in this relation and insist that the absence of diphtheria can never be decided by direct smear alone, and that in isolated instances the presence of diphtheria may be reported, if there is the proper evidence. This evidence, it is taught, consists of predominance of bacilli of the size and morphology of the Klebs-Loeffler bacillus, without insisting on the presence of granules in the bacilli. Such more deeply staining structures in the bacillus assist in the diagnosis and are always to be searched for, but their absence need not necessarily negative the diagnosis. Caution, in any case, is rigidly taught, and cultural methods are always to be used for control.

With this rather trite introduction, the case to be reported is of interest. The patient had an exudate and an immediate diagnosis was requested. Nineteen direct smears were examined by as many members of a section in clinical pathology, and controlled by me. In practically every specimen there was an overwhelming predominance of slender, somewhat pointed bacilli of about the length and thickness of the Klebs-Loeffler organism. Diphtheria was diagnosed. Special note was made of the pointed extremities and the possibility of Vincent's angina was considered in the discussion of the smears, but the absence of spirochetes, except one found by the instructor in all the specimens, was believed for practical purposes to rule out that affection, although the occurrence of only the fusiform bacilli in that disease was mentioned. Knowing of the presence of spirochetes in the mouth, this single one was at the time adjudged one of that kind. The culture was absolutely negative, even after 48 hours.

So this case is adjudged Vincent's angina without spirochetes from the absence of diphtheria and other organisms in the culture, from the abundance of fusiform bacilli in the smears, and from the inability to grow them under aërobic conditions.

1. Am. Jour. Med. Sci., May, 1905.
2. Brit. Med. Jour., 1899.

ADHESION OF APPENDIX TO UTERUS.

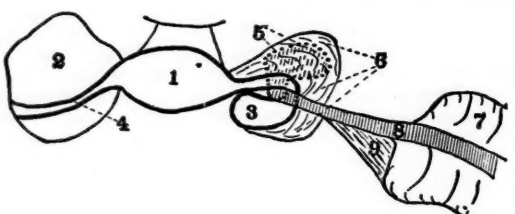
D. T. QUIGLEY, M.D.
NORTH PLATTE, NEB.

History.—The patient was a woman, 20 years of age, wife of a physician, formerly a trained nurse, family history good, and no ill health previously, except that about a year before my seeing her, during her hospital work, she had had an attack which had been diagnosed as appendicitis. This passed off in a few days and she had no more trouble, except occasional soreness in the abdomen.

At the time I saw her she had fever of two or three degrees. She had been vomiting almost incessantly for three weeks, but what gave her the most trouble was a very severe pain in the lower abdomen. The pain was continuous, and at times took on a cramping character which made it excrutiating. She had been having increasing doses of morphin, hypodermically, for three weeks, and as the morphin was becoming a menace to her life, and her condition was becoming steadily worse, I advised an operation as soon as preparations could be made.

Operation.—I operated the second day afterward, and on opening the abdomen I came at first on an ovarian cyst as large as an orange. On account of many and firm adhesions, which had to be carefully separated with the scissors, its removal was rather tedious. After removing the cyst I inspected the other side and was surprised to see the appendix in plain view, like a cord stretched across from the cecum to the body of the uterus. The swelled and bulbous tip of the appendix, containing pus, was held under the Fallopian tube by the tube being bent backward, completely encircling the body of the appendix. The mesentery of the appendix was taut, and as this contains a rich supply of sensory nerves the stretching of the mesentery probably caused the acute exacerbations of pain.

It has been shown by the investigations of Mitchell, of Washington, D. C., and Lennander of Upsala, Sweden, that the abdominal viscera are not sensitive on account of not being supplied with sensory nerves, but that the mesentery and its connective tissue is richly



Adhesion of appendix to uterus: 1, fundus of uterus; 2, ovarian cyst containing mucopurulent fluid; 3, bulbous tip of Fallopian tube containing pus; 4, atrophied Fallopian tube; 5, bulbous tip of appendix containing pus and covered with (6) inflamed and thickened broad-ligament; 7, cecum; 8, appendix; 9, mesentery of appendix on stretch.

supplied with sensory nerves, and in the case of structures like the mesentery of the appendix and the broad ligament traction causes the most intense pain.

In this case the fact that the tube and the appendix were locked together gave the ideal condition for the production of pain in this way. The more the inflamed tip of the appendix swelled the more traction was exerted on the mesentery and the broad ligament. The tube being swelled tended to pull on the broad ligament and the mesentery in the same manner.

Winter Infantile Gastroenteritis.—Decherf, in the *Bulletin de la Société de pédiatrie de Paris*, No. 1, January, 1908, calls attention to a local agricultural practice that explains the prevalence of epidemics of infantile gastroenteritis in the north of France during the fall or winter months. He traced a small epidemic of six cases, one of them fatal, to the use of the milk of cows fed with fermented ensilage. Every care had been taken in having the milk duly sterilized, and infection could therefore be excluded. It is in the north of France that infant mortality is highest, and it is there that such feeding of cattle prevails. The farmer's stock of feed is usually exhausted about the middle of October and then he has recourse to the refuse from the distilleries and beet-sugar manufactories, and the leaves of the beets, and a sort of cabbage planted after the harvest, are used temporarily as the exclusive diet of the herds. The choleraic disorder is attributed by Decherf to toxins produced in the cow's organism by this diet of ensilage, which imparts a special flavor to the milk and butter. It is mentioned as a notable fact that this local form of infantile gastroenteritis is unfavorably affected by the use of buttermilk. It yields, readily, however, to a "water diet," which seems to be the treatment of choice. In other respects it can not be readily differentiated from the gastroenteritis of different origin.

Our Foreign Guests

The Chicago session of the American Medical Association—as is usually the case—will be honored by the presence of a number of distinguished foreigners who will participate in the proceedings.

A few of the men who intended to be present have been unavoidably prevented from attending. We give below brief sketches of some of those who will be present.

Charles Edward Beevor.

Charles Edward Beevor, M.D. Lond., F.R.C.P. Lond., who is to read a paper on "Associated Movements" before the Section on Nervous and Mental Diseases, was born in London in 1854. He received his medical education at University College, London, receiving the degree of doctor of medicine in 1881. He became a fellow of the Royal College of Physicians in 1888. In 1903 he was Croonian lecturer at the Royal College of Physicians, and in 1906 he was Lettsomian lecturer, Medical Society of London. He was president of the Neurologic Society in 1907. The following are some of his published works: "Diseases of the Nervous System;" "Muscular Movements and Their Representation in the Central Nervous System;" "Knee-Jerk and Conjugate Deviation of the Eyes After Epileptic Fits;" "Electric Excitation of the Cortex of the Orang-outan;" "Motor Functions of Certain Cranial and Cervical Nerves in the Monkey."

Edward Treacher Collins.

Edward Treacher Collins, F.R.C.S., L.S.A., who is to deliver an address on "Developmental Deformities of the Crystalline Lens" by special invitation before the Section on Ophthalmology, was born in London in 1862. He received his education at the University College School and Middlesex Hospital. He was house surgeon at the Royal London Ophthalmic Hospital from 1884 to 1887, and pathologist from 1887 till 1894. He was in Persia in 1894, at which time he was decorated with the Order of the Lion and the Sun. In 1893-94 he was Hunterian professor of pathology and surgery at the Royal College of Surgeons and he was Erasmus Wilson lecturer in 1889-90. He is ophthalmic surgeon at the Charing Cross Hospital and lecturer on ophthalmology at the Charing Cross Hospital Medical School and at the London School of Tropical Medicine; he is also visiting ophthalmic surgeon to the Metropolitan Asylums Board's ophthalmic schools.

August Martin.

August Martin, who will read a paper on "Genital Tuberculosis" before the Section on Obstetrics and Diseases of Women, was born in Jena, July 14, 1847. He was graduated at Berlin in 1870 and after being assistant at the Berlin gynecologic clinic for four years he was, in 1876, appointed lecturer on obstetrics and gynecology. Since 1899 he has been at the Greifswald University, at which institution he now occupies the chair of gynecology. In 1895 he founded, with Sänger, the *Monatsschrift. für Geburtshilfe und Gynäkologie.* Among his writings are the following: "Manual of Obstetrics," written in conjunction with Carl Ruge; "The Urine of the New-Born;" "Text-Book on Obstetrics;" the articles on "Pregnancy," "Ovary" and "Fallopian Tube" in Eulenberg's "Real-Encyklopädie" and "Handbook on Diseases of the Adnexa." He has also made valuable contributions to the literature of extra-uterine pregnancy, tumors, abnormal implantation of the impregnated ovum and other gynecologic subjects.

Johannes Pfannenstiel.

Johannes Pfannenstiel, who was born in Berlin, June 28, 1862, will read a paper on "Abdominal Cervical Cesarean Section" before the Section on Obstetrics and Diseases of Women. He studied in Berlin and was graduated in 1885, from which time until 1887 he was assistant physician at the City Hospital in Posen. From 1887 to 1893 he was assistant physician at the Royal Gynecologic Clinic at the University of Breslau, under Fritsch. He was appointed lecturer in obstetrics and gynecol-

ogy in 1890 and in 1896 received the title of professor. Since 1891 he has been secretary of the German Gynecologic Society. From 1896 to 1907 he was head of the gynecologic department of the hospital of the Elizabethan Sisters at Breslau; he is now professor of obstetrics and gynecology at Kiel. He has published, among other works, the following: "Pathology of the Ovary;" "Pseudomucin of Cystic Ovarian Tumors;" "Diseases of the Ovary and Parovarium;" "Tumors of the Uterus;" "Implantation of the Ovum and Development of the Placenta," and "Origin of the Syncytium."

Ernst Ferdinand Sauerbruch.

Ernst Ferdinand Sauerbruch, whose paper on "Negative Pressure in Surgery of the Chest" will be read before the Section on Surgery and Anatomy, was born at Barmen, July 3, 1875. He studied medicine at the universities of Marburg, Jena and Leipsic, taking his state examination at the last named institution and receiving his doctorate degree. After several years' service as assistant in the large hospitals at Cassel and Erfurt, and at the Moabit in Berlin, in 1902 he entered the surgical clinic at Breslau, which was then under the direction of Mikulicz. During his work with Mikulicz he perfected his pneumatic chamber for use in intrathoracic surgery. After the death of Mikulicz Sauerbruch went to the surgical clinic at Greifswald under professor Friedrich. Since October, 1907, he has occupied the position of chief of the surgical clinic of the University of Marburg and has charge of the surgical dispensary. A few of his many published works are the following: "Exclusion of the Injurious Action of Pneumothorax in Intrathoracic Operations;" "Operations on the Thorax by Means of the Sauerbruch Chamber;" "Bloodless Operations on the Skull under Increased Pressure with Contributions to the Knowledge of the Cerebral Pressure," and "The Applicability of the Reduced Pressure Method in the Surgery of the Heart."

Edward Albert Schäfer.

Edward Albert Schäfer, LL.D., M.R.C.S., F.R.S., who will read before the Section on Pathology and Physiology a paper on "Artificial Respiration in Its Physiologic Aspects," was born in London in 1850. He received his medical education at the University College, London. He became a member of the Royal College of Surgeons in 1874 and at that time was assistant professor of physiology in University College. He received the degree of LL.D. in 1897 from the University of Aberdeen and that of D.Sc. from the University of Dublin in 1905. He was Jodrell professor of physiology at University College, London, from 1883 to 1899, and is now professor of physiology in the University of Edinburgh. From 1870 until the present he has devoted himself to teaching physiology and to the pursuit of physiologic investigations. The following are some of his published works: "A Course of Practical Histology;" "Directions for Class Work in Practical Physiology," and a "Text-Book of Physiology for Advanced Students." He was also editor of the departments of histology and embryology in "Quain's Anatomy." Professor Schäfer now lives at North Berwick, about 25 miles east of Edinburgh.

Section Officers

From year to year THE JOURNAL has taken pleasure in presenting to its readers portraits of new Section officers. This years in addition to the photographs of those who were elected at the last annual session, we give below brief biographical sketches.

Samuel T. Armstrong.

Samuel T. Armstrong, Ph.D., M.D., New York City, secretary of the Section on Hygiene and Sanitary Science, was born Nov. 2, 1859, at St. Louis. He received his preliminary education from tutors and at the public schools of St. Louis, and later from the St. Louis University, from which institution he received his degrees in philosophy. He was graduated in medicine in 1879 by the St. Louis Medical College. He was appointed assistant surgeon U. S. Public Health and Marine-Hospital Service in 1881 and passed assistant surgeon in 1884. From 1898 till 1901 he was major and brigade surgeon in the U. S. Volunteers.

Willard Bartlett.

Willard Bartlett, A.M., M.D., St. Louis, secretary of the Section on Surgery and Anatomy, was born July 27, 1868, at Virden, Ill. He received his classical education at the Illinois College, and was graduated in medicine by the Marion-Sims College of Medicine, St. Louis, in 1895. The next three years were spent in the German universities of Berlin and Strassburg, and in 1898 he began the practice of surgery in St. Louis. For three years he taught pathology at the Marion-Sims College of Medicine, and in 1901 became instructor in surgical pathology in the Washington University Medical School. In 1906 he was made professor of experimental surgery in this institution.

Edward Augustus Bogue.

Edward Augustus Bogue, D.D.S., M.D., New York City, chairman of the Section on Stomatology, was born in 1838 at Vernon, N. Y. He received his preliminary education at Seneca Falls Academy and later was graduated by the New York College of Dental Surgery. He afterward entered Rush Medical College and was graduated by the Castleton Medical College, Vermont. For eight years he practiced dental surgery in Chicago and then moved to New York City, where he has practiced since. He lectured in Harvard University Dental School for five years and taught in the Odontotechnique of Paris two years.

Walter B. Dorsett.

Walter B. Dorsett, M.D., St. Louis, chairman of the Section on Obstetrics and Diseases of Women, was born in St. Louis County, Mo., June 13, 1852. He received his literary education at Washington University, and was graduated in medicine by the St. Louis Medical College in 1878. In 1879 he was made superintendent of the St. Louis Quarantine Hospital during the yellow-fever epidemic, and from 1879 till 1887 he was chief city (St. Louis) dispensary physician. From 1887 till 1892 he was superintendent of the St. Louis Female Hospital. Dr. Dorsett is professor of gynecology and pelvic surgery in the Medical Department of the St. Louis University and attending gynecologist at the Missouri Baptist Sanatorium and Evangelical Deaconess Home and Hospital.

M. Howard Fussell.

M. Howard Fussell, M.D., Philadelphia, chairman of the Section on Pharmacology and Therapeutics, was born Nov. 24, 1855, at Belvidere, Chester County, Pa. He received his preliminary education in the public schools of Delaware and Chester counties, Pa., and at Friend's Central School, Philadelphia. From 1875 to 1881 he taught in the public schools of Radnor, Pa. He was graduated in medicine by the University of Pennsylvania in 1884, and at once entered general practice. Dr. Fussell is assistant professor of medicine at the University of Pennsylvania, pathologist to St. Timothy's Hospital and physician to St. Timothy's and St. Mary's Hospitals, and also physician-in-chief to the Medical Dispensary of the University of Pennsylvania.

William C. Gorgas.

William C. Gorgas, A.B., M.D., Sc.D., Ancon, Panama, chairman of the Section on Hygiene and Sanitary Science, was born Oct. 3, 1854, at Mobile, Ala. His literary education was received at the University of the South, by which institution he was graduated in 1875. He received his degree of doctor of medicine from Bellevue Hospital Medical College, N. Y., in 1879, and became a member of the house staff of Bellevue Hospital in 1880. He was appointed first lieutenant medical corps, U. S. Army, in 1880; became captain in 1885, major in 1898, and was made colonel by special act of Congress in 1903 in recognition of his work at Havana in the yellow-fever campaign. Dr. Gorgas is a member of the Isthmian Canal Commission and also chief sanitary officer of the Isthmian Canal Zone.

Edwin E. Graham.

Edwin E. Graham, M.D., Philadelphia, chairman of the Section on Diseases of Children, was born in Philadelphia Feb. 28, 1864. He received his early education at the Protestant Episcopal Academy in Philadelphia, afterward being graduated by the Phillips Exeter Academy, New Hampshire. From this institution he went to Harvard, and in 1887 was graduated in medicine by the Jefferson Medical College. After completing a term as resident physician to the Philadelphia Hospital, he spent a year abroad, studying at Göttingen, Munich and Berlin. In 1891 he was appointed lecturer on children's diseases in Jefferson Medical College, and in the following year was elected to the professorship of the newly created chair of diseases of children. In 1889 Dr. Graham was elected physician to the Franklin Reformatory Home. He has served both as vice-president and president of the Philadelphia Pediatric Society, and is pediatrist on the medical staff of the Philadelphia and Jefferson Hospitals.

M. B. Hartzell.

M. B. Hartzell, A.M., M.D., Philadelphia, chairman of the Section on Cutaneous Medicine and Surgery, was born in Fayetteville, Pa., in 1854. He received his literary education at Pennsylvania College, Gettysburg, Pa., obtaining his bachelor's degree in 1874 and his master's degree three years later. He was graduated in medicine by Jefferson Medical College in 1877. Dr. Hartzell is associate in dermatology in the University of Pennsylvania and clinical professor of dermatology at the Woman's Medical College of Pennsylvania. He is also dermatologist to the Philadelphia Hospital and consulting dermatologist to the American Oncologic Hospital.

C. F. Hoover.

C. F. Hoover, A.B., M.D., Cleveland, Ohio, chairman of the Section on Practice of Medicine, was born at Miamisburg, Ohio, Aug. 2, 1865. He was graduated by Harvard University in 1887, entering Harvard Medical School the same year. In February, 1890, he went abroad and studied at Vienna and Prague until the spring of 1892, when he returned to the United States for a brief visit, taking his M.D. degree at Harvard. During the next two years he worked abroad, returning to America in the spring of 1894, at which time he located in Cleveland. Until May, 1907, he was visiting physician to the Cleveland City Hospital and St. Alexis Hospital; at this time he resigned and was appointed visiting physician to Lakeside Hospital. Since 1895 Dr. Hoover has been a member of the medical faculty of Western Reserve University, where he teaches physical diagnosis and lectures on theory and practice.

William A. Jones.

William A. Jones, M.D., Minneapolis, Minn., secretary of the Section on Nervous and Mental Diseases, was born at St. Peter, Minn., May 24, 1859. He received his preliminary education in the public elementary and high schools, and then served as pharmacist for six years. He was graduated in medicine by the Medical Department of the University, City of New York, in 1881, and until 1883 was assistant physician of St. Peter's State Hospital. At this time he moved to Minneapolis, where he began general practice. In 1886 he went to London and Berlin for postgraduate work, and since his return in 1887 has confined his practice to mental and nervous diseases. Dr. Jones has for the past fifteen years been professor of mental and nervous diseases in the College of Medicine and Surgery, University of Minnesota. For two years he was a member of the board of trustees for the Minnesota State Hospitals for the Insane. He is editor of the *Journal of the Minnesota State Medical Association and Northwestern Lancet.*

Hanau W. Loeb.

Hanau W. Loeb, A.M., M.D., St. Louis, chairman of the Section on Laryngology and Otology, was born Aug. 25, 1865, in Philadelphia. He received his literary education at the University of Missouri and his medical education at the St. Joseph Medical College and at Columbia University, New York. After practicing for two years in St. Joseph, Mo., he went to St. Louis to accept the chair of nose and throat diseases in the Marion-Sims College of Medicine, then just organized. He was made secretary of this institution in 1892, and has retained both positions to the present time, the college now being the medical department of the St. Louis University.

Rudolph Matas.

Rudolph Matas, M.D., chairman of the Section on Surgery and Anatomy, was born September, 1860, in Bonnet Carré, La. He received his early education in Barcelona, Spain, and Paris, France. From 1871 to 1873 he attended Soule's College in New Orleans, later being graduated with honors by the Literary Institute of St. John, Matamoras, Mexico. In 1879 he accompanied the Yellow Fever Commission of the National Board of Health to Havana, Cuba, as medical clerk, laboratory assistant and interpreter. In 1880 he was graduated in medicine by the Medical Department of the University of Louisiana, and served as chief of clinic in surgery and gynecology until 1886, when he was appointed demonstrator of anatomy at his alma mater. He was elected professor of surgery in 1895 at the same institution, and in 1896 was elected emeritus professor by the faculty of the New Orleans Polyclinic. Dr. Matas is also visiting surgeon of the Charity Hospital.

Samuel J. Walker.

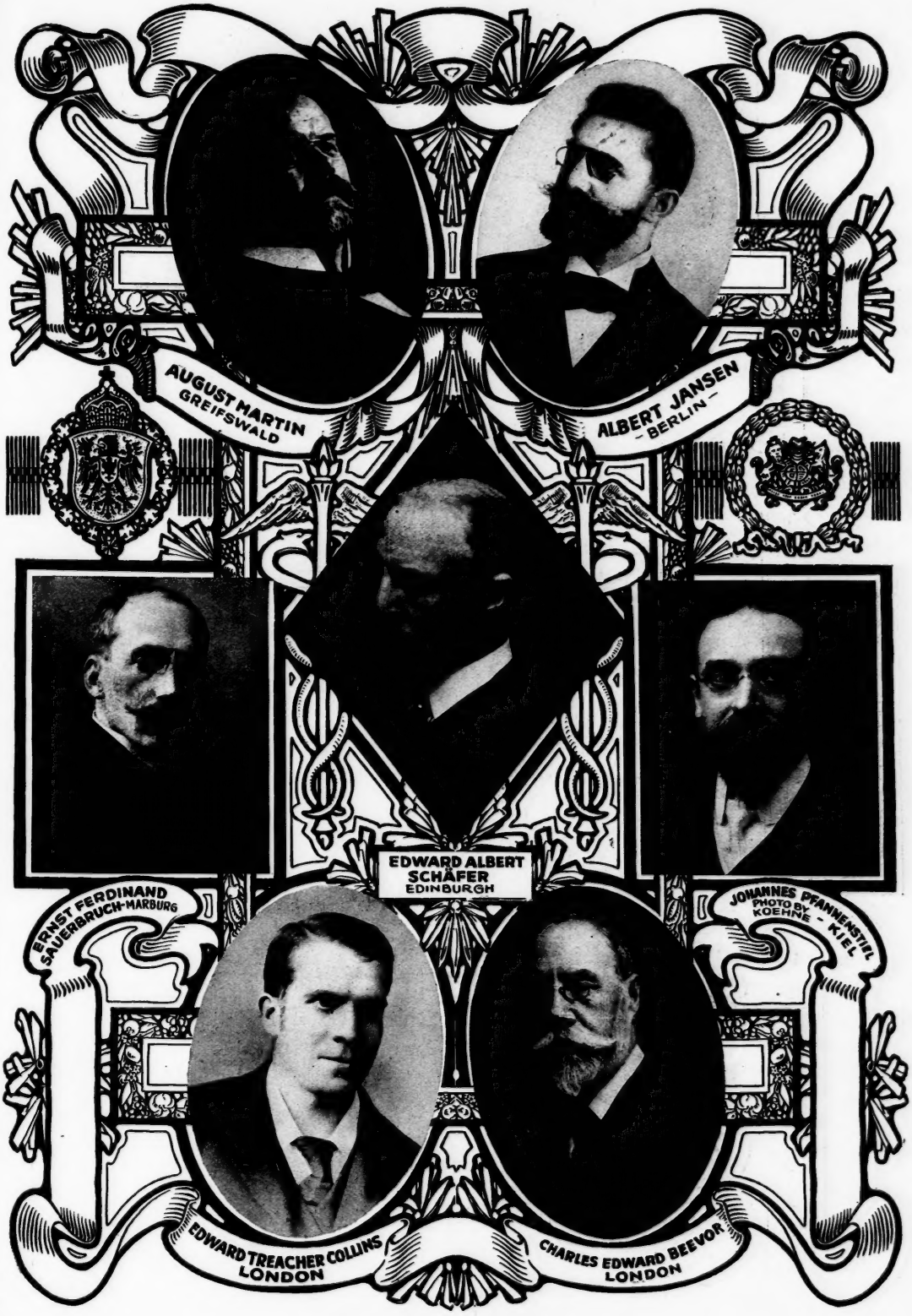
Samuel J. Walker, A.B., M.D., Chicago, secretary of the Section on Diseases of Children, was born in Covington, Ky., in 1867. He received his preliminary education in the Chicago public schools and took his A.B. from Yale in 1888. His medical education was received at the Northwestern University Medical School, by which he was graduated in 1893. After filling the position of interne at St. Luke's Hospital, Chicago, he studied for two years in Europe. Since 1896 he has been practicing medicine in Chicago. Dr. Walker was adjunct professor of diseases of children in the College of Physicians and Surgeons, Chicago, from 1900 till 1903 and assistant professor of neurology in the Chicago Policlinic since 1900. He was president of the Chicago Pediatric Society, 1904-1905, and is now attending physician to Passavant Memorial, St. Vincent's Infant Asylum and Children's Memorial hospitals.

William Hamlin Wilder.

William Hamlin Wilder, A.B., M.D., Chicago, chairman of the Section on Ophthalmology, was born at Covington, Ky., in 1860. He received his B.A. degree from Belmont College, Cincinnati, in 1877, and was graduated in medicine by the Medical College of Ohio in 1884. For the year preceding his graduation he was resident physician at the Cincinnati General Hospital; after leaving this institution he engaged in general practice in Cincinnati until 1889. From 1889 till 1892 he took postgraduate work at Göttingen, Vienna and London. The positions held at present by Dr. Wilder are: Professor and head of the Department of Ophthalmology at Rush Medical College; professor of ophthalmology, Chicago Policlinic, and ophthalmic surgeon to the Presbyterian Hospital and the Illinois Charitable Eye and Ear Infirmary.

Milton J. Rosenau.

Milton J. Rosenau, M.D., Washington, D. C., secretary of the Section on Pathology and Physiology, was born in Philadelphia Jan. 1, 1869. He was educated in the public schools of Philadelphia and was graduated by the medical department of the University of Pennsylvania in 1889, after which he took postgraduate work in Paris, Berlin and Vienna. He is passed assistant surgeon in the U. S. Public Health and Marine-Hospital Service, and at present is director of the Hygienic Laboratory of the same service. Dr. Rosenau was professor of bacteriology at the Washington Postgraduate Medical School in 1902. He was sanitary attaché to the International Conference of American States and delegate to the Tenth International Congress of Hygiene and Demography, and also to the Thirteenth International Congress on Medicine and Surgery. He is special lecturer on tropical diseases at the Georgetown University.



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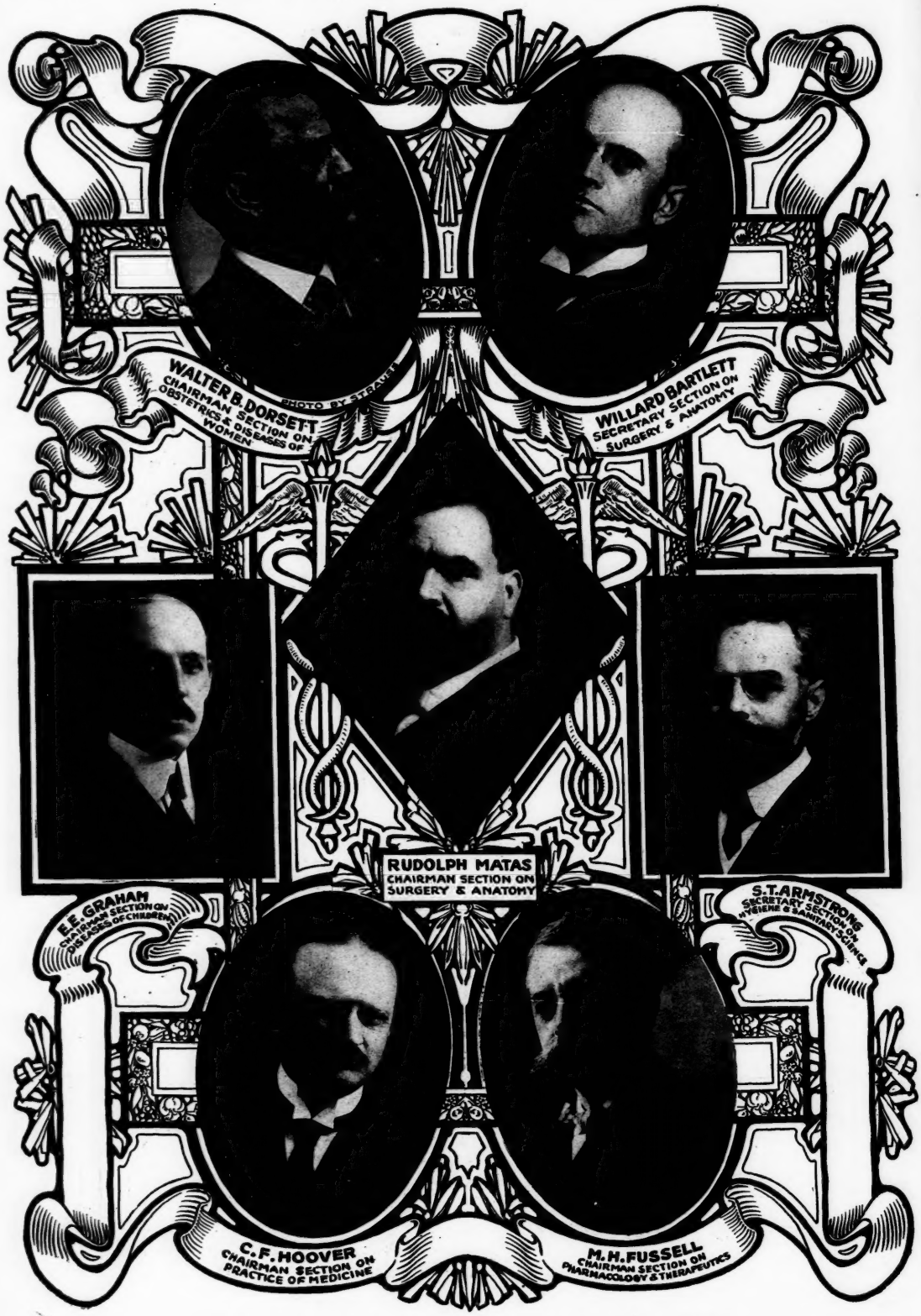
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[For other information see second page following reading matter.]

SATURDAY, MAY 30, 1908.

ABSTRACTS OF THE LITERATURE OF SCIENCES RELATED TO MEDICINE.

Our dependence on German literature for information as to the progress of medical science and of the related sciences we must frankly admit to be due in large part to the superiority in both quantity and quality of German work in these branches. There is, however, another element that must be taken into consideration, and that is the influence of that peculiarly German and highly commendable institution, the *Zentralblatt*. Germany is filled with young scientists of every description, penuriously awaiting the advancement that will bring both professional and financial standing, and which in that land comes almost solely as the reward of scientific investigation; these young scientists are readily enrolled in the work of abstracting the literature of their specialties, a task which brings not only desirable familiarity with the literature, and an introduction to their fellow scientists since the abstracts are usually signed, but also a modest amount of very useful *Marks* and *Kronen*. As a consequence, it has been possible in Germany to produce numerous *Zentralblätter* which are to a considerable extent supported by the subscriptions that come from other lands.

Valuable as these *Zentralblätter* are, they are defective for our use in two ways: first, in that they are in a foreign tongue, and thus not available for an unfortunately large part of the medical profession; and secondly, in that they consider chiefly work of German origin. This last defect, while natural enough, sometimes leads to the anomalous and irritating condition that men of standing often know more about the German literature than they do of the literature of their own country; and in any event it serves to exalt German research and to obscure the research of our own and other non-Germanic countries.

The absence of American abstract journals in the sciences related to medicine has long been a source of regret to those medical men who are desirous of keeping abreast of the times in the sciences that are fundamental to medical progress. We lack publications of the scope of the *Zentralblätter für Physiologie, Bakteriologie, allgemeine Pathologie, Anatomie, Biochemie*, etc., which will give us the same information in a familiar language, and, what is more important, which will also include the results of the good work that is being done in other lands than Germany. It is, therefore, with especial satisfaction that we note the introduction by the American Chemical Society of an abstract journal which will do for the chemists what we in this JOURNAL are trying to do for the medical profession.

This abstract journal has now passed its first year and the success of the undertaking is assured, not only as to its support by the chemists, but also as to the quality of the publication, which seems to excel the corresponding German *Zentralblatt*. It is of especial interest to the medical profession that the abstracting of the literature on biologic chemistry, which thoroughly covers everything that can be considered as medical chemistry, has been particularly exhaustive and successful, so that there is now available for the progressive physician a place where he can find all the valuable literature on the chemistry of medicine, physiology and pathology abstracted in his own tongue. Only through its large numbers and thorough organization has it been possible for the American Chemical Society to accomplish this great enterprise, and we congratulate it on its success. We wish that the time might soon come when the same thing could be done at least in physiology and in pathology, not only for the benefit of the specialists in these sciences, but also for the benefit of American science in general and American medicine in particular.

STANDARDIZATION OF TETANUS ANTITOXIN.

Reference has previously been made[1] to the necessity of uniformity in the strength of tetanus antitoxin and to the fact that an official standard for this preparation had recently been established in accordance with the law of July 1, 1902, regulating the sale of viruses, serums and toxins in interstate traffic. A bulletin has recently been issued by the U. S. Public Health and Marine-Hospital Service[2] describing the method used in preparing this standard and its advantage as compared with European standards.

The immunity unit adopted is ten times the least amount of antitetanic serum necessary to save the life of a 350 gram guinea-pig for ninety-six hours against an official test dose of standard toxin prepared and issued by the U. S. Public Health and Marine-Hospital Service, the test dose being 100 minimal lethal doses of a precipitated toxin preserved under special conditions in the Hygienic Laboratory. In order to fix an official test dose it was necessary to secure a stable toxin. It is well known that tetanus toxin in solution is not stable. A dried toxin was therefore prepared by precipitating the filtered bouillon culture with ammonium sulphate, drying the precipitate over sulphuric acid, grinding to an impalpable powder and preserving *in vacuo* under the influence of pentaphosphoric acid.

1. THE JOURNAL, A. M. A., May 18, 1907.
2. Hygienic Laboratory Bulletin, No. 43.

Under these conditions this toxin maintains its strength without appreciable alteration, as is shown by the fact that the toxin has shown no change in two years.

As a means of determining the exact strength of this toxin from time to time a dried antitetanic serum is preserved under the same conditions as the standard toxin, and they are measured against each other reciprocally in order to detect changes or deterioration in either.

The standard toxin is issued to licensed manufacturers with which to standardize antitetanic serum, and its use insures serums of precisely comparable strengths. At the same time the U. S. Public Health and Marine-Hospital Service, by frequent examinations of serums purchased on the open market determines whether the results are in accord with the official standard.

In testing antitoxins a solution of the standard toxin is made, one cubic centimeter of which contains 100 minimal lethal doses. The serum to be tested is properly diluted and aliquot parts of the same are mixed with the official test dose of toxin. Due regard to details is observed in making these toxin-antitoxin mixtures, and after standing one hour in diffused light they are injected into guinea-pigs. As the amount of toxin used is constant, it is easy to determine from the animals that die and those that survive the neutralizing power of the serum under examination. In order to facilitate making the dilutions of serums to be tested, tables of reference have been prepared and are included in the bulletin.

The standardization of this product has evidently been attended by many technical difficulties, and it is a pleasure to note that through these efforts an exact dosage of tetanus antitoxin has been made available in this country.

COLD STORAGE OF MILK.

The cold-storage warehouse has been one of the most important factors in making city life tolerable, and with all its faults we look on it as serving to save us from large quantities of borates, salicylates, benzoates and formalin. As a rule, milk is not a cold-storage commodity, although it sometimes happens that storage of milk is practiced for special occasions, such as for the accumulation of cream sufficient to meet the demand for ice cream on the Fourth of July, and it is said that the commissariat departments of transatlantic liners have such confidence in cold storage that they provision the ships with milk for the entire round trip. It is, of course, possible that the practice of keeping milk in cold storage may grow, and hence there is especial importance attached to the article recently published by Dr. Mary Pennington,[1] which contains a number of interesting and, perhaps to many, surprising observations.

1. Jour. Biol. Chem., 1908, iv, 353.

It is popularly supposed that at the freezing point bacterial life is quiescent, and at the very least that any considerable multiplication of bacteria is impossible; however, these studies seem to show that this supposition is not correct. Conn and Esten have also made examinations of milk kept at 1° C., and they found that after from six to eight days the number of bacteria steadily increases, although on account of the failure of the usual lactic acid organisms to multiply at this low temperature the milk does not curd. They concluded, therefore, that milk is not necessarily wholesome because it is sweet, especially if it has been kept at low temperatures; at the temperature of an ordinary ice chest milk may remain sweet for a long time and yet contain enormous numbers of bacteria, among which are species as likely to be unwholesome as those that develop at room temperature. The more elaborate studies of Pennington support this opinion and add much to our knowledge of the subject. Milk of the cleanest sort, containing when first put into cold-storage room but a few hundred bacteria in one cubic centimeter, shows by the end of a week a pronounced growth of organisms, and after five or six weeks at from 29° to 31° F. the number reaches hundreds of millions or even over a billion to the cubic centimeter. This multiplication takes place in spite of the fact that at this temperature the milk is a semisolid mass of ice crystals, and, what is particularly important, such milk containing hundreds of millions of bacteria to the cubic centimeter may show no odor or taste to indicate this contamination. Neither does the milk curd on heating, and it is not until later, when the organisms of putrefaction are in the ascendency, that the milk is altered in such a way that the housewife would consider it unfit for use. Chemically, the changes occurring in milk kept at freezing temperature are different from those that take place in milk during ordinary souring; in souring the formation of lactic acid is the chief change, and the casein, although curded, has undergone very little disintegration, whereas in cold-storage milk there is an extensive digestion of the uncurded casein until over 50 per cent. of it may have been changed into cleavage products.

It will probably surprise those unfamiliar with bacteriology to learn that there are organisms which grow readily at the freezing point; indeed, under some conditions, growing better at 0° C. than at higher temperatures. For example, in the experiments cited above, plate cultures were made and permitted to grow at 37°, 20°, and 0° C. When the milk was first received the number of colonies developing at the two higher temperatures was always much greater than the number found on the plates kept at 0° C., but after long preservation in cold storage the bacteria growing well at low temperatures were found to have crowded out the other forms and to have taken their place, so that as a result most of the bacteria of this stored milk are of a kind

growing at cold-storage temperatures and not at body or room temperature. In one experiment, to illustrate, a certain sample of ordinary milk when first received showed 380 per cent. more colonies developing in plates kept at 37° C. than in plates kept at 20° C., while the organisms developing at from —1.67° C. to —0.55° C. were but 14 per cent. of those developing at 20° C.; however, after this milk had been kept at the cold-storage temperature for five weeks, the count of organisms growing at 20° C. had risen from the initial 720,000 to the cubic centimeter to 1,000,000,000, while the organisms growing in the plates kept at below 0° C. numbered no less than 1,090,000,000!

The significance of these observations is not that cold storage of milk is a proceeding that is to be altogether condemned, but that we must not expect too much of it. Milk can be kept for a number of days in cold storage without suffering serious decomposition, but the period of storage must be limited. Just what the safe length of time and conditions of storage may be should be definitely ascertained, for it is apparent that the palatability of milk and absence of souring are not to be taken as adequate evidence of its safety as a food, especially for infants.

THE RELATIONS BETWEEN ARTERIOSCLEROSIS AND MENTAL DISEASE.

The coincidence of certain forms of mental disease with sclerotic changes in the blood vessels suggests a possible relation between these two sets of conditions. Like other organs, the brain does not react identically in all individuals to the same irritation or disturbance, so that at times marked arteriosclerosis of the nervous system may be attended with few if any disorders of mental function, while at other times more or less characteristic symptoms result. It is a well-known fact that cerebrospinal arteriosclerosis may exist apart from general arteriosclerosis. The latter is characterized especially by palpable thickening of accessible blood vessels and hypertrophy of the heart, with accentuation of the second sound; the latter by headache, vertigo, dyspnea, mental irritability or depression, impaired memory and at times by visible changes in the retinal vessels. The subject is one of great interest and importance and it has received considerable attention at the hands of competent alienists.

On the basis of an extended clinical experience Dr. C. Macfie Campbell[1] concludes that, while arteriosclerosis of some degree is a commonplace finding in cases of mental disorder, especially in advanced life, there are cases in which the cardiovascular disorder seems to be the central element in the clinical and anatomic picture. In his opinion, certain cases symptomatologically described as melancholia, hypochondria, neurasthenia, etc., may be better grouped on etiologic grounds as cases of arteriosclerotic brain disorder. While the arteriosclerosis is an important factor, the factors that led to the symptomatologic grouping are not to be neglected. To this end a careful analysis of the depressions of advanced life is greatly to be desired. In certain cases of organic dementia the arteriosclerotic changes are obviously the most important element in the process and the term arteriosclerotic dementia is justifiable; but the relation of certain mental symptoms to similar ones in the presenile and senile psychoses must be kept in mind.

For the solution of this problem a critical analysis of the presenile and senile psychoses will be necessary. It is premature to correlate the entire symptomatology with the arteriosclerotic part of the anatomic findings. The neurologic picture in advanced cerebral arteriosclerosis is still ill-defined, and for the differential diagnosis of the various dementias further clinical material is required. In certain cases of epilepsy setting in late in life the convulsions and the general symptomatology are closely related to arteriosclerosis.

1. Am. Jour. Insanity, lxiv, 553

STATE BOARD STATISTICS FOR 1907.

We present this week for the fifth consecutive year tabulated statistics based on the examinations conducted by state medical licensing boards during the past year. These statistics appear on pages 1841 to 1863 and are worthy of careful study. The four large tables (A, B, C, D) give the results in detail, while the others have been prepared to bring out the more important deductions.

As can readily be seen, these tables throw light on several important factors relating to medical education. They render great assistance in the investigation of medical colleges, and although in an occasional instance conclusions based solely on these statistics might not give the college affected a fair rating, in most cases the ratings based thereon are surprisingly borne out by the more extended investigations of the colleges made recently by the Council on Medical Education. Again, by comparing the examination results of graduates of the last year and recent years with those of older graduates, it can be seen whether the colleges are improving in the preparation of their graduates for these examinations. That there has been an improvement in this respect is evidenced by the fact that in 1905 only 45 colleges could be listed as receiving less than 10 per cent. of failures at these examinations, while this year the list numbers 64. Again the percentage of failures for all graduates during the past year was 13.8 (Table F), as compared with 17.3 for 1906 and 18.3 for 1905.

These statistics reveal what colleges and what states are furnishing the greatest number of physicians, also the kind of training given them, at least so far as this may be judged from their successes at the license examinations. They allow of comparison between the totals

and percentages of different states and different colleges; and even if conclusive deductions can not be made, the results are a stimulus to further investigations which can only be beneficial.

But possibly a more important outcome of these statistics is the light they throw on the different methods used by examining boards and on the different degrees of severity in the grading of papers. The percentages of rejections by different examining boards are even less conclusive when taken alone than the failure percentages of the colleges, owing to the different methods employed by different boards. For example, one board may have a high percentage of rejections, but on further study it is seen that they examine all candidates who present themselves, including, possibly, undergraduates. The high percentage, therefore, is only what might be expected. Another board may make a careful preliminary investigation of the credentials of all applicants, many of whom in consequence may be refused admission to the examination. This course is likely to result in a low percentage of rejections for those who are examined; so that the standard of the latter board may be fully as high as, or even higher than, that of the former.

Again, these statistics serve to call attention to the character of the state board examination, since in a few instances graduates of colleges known to be of a purely quiz-compend character have made the best showing at these examinations. That present methods are not so perfect as could be desired is recognized better by no one than by the state boards themselves; therefore, the present analysis of the results of such methods will doubtless be welcomed.

We urge a careful study of these statistics, especially by those who are interested in the problems of medical licensure and medical education.

VISIT THE ASSOCIATION BUILDING.

We hope that every physician attending the Chicago session will pay a visit to the Association building and the home of THE JOURNAL at 103 Dearborn Avenue. Since the American Medical Association last met in this city—1887—there has been marked progress, not only in the art and science of medicine but also in the growth and development of the Association itself. Physicians attending the present meeting will see this reflected in the remarkable advances that have been made in the Association's own material progress. At the time of the last Chicago session the Association had no home of its own; it possessed no printing plant, and THE JOURNAL itself, then consisting of sixty-four pages, had a circulation of but a little over 4,000. Today the Association owns valuable property and a modern printing plant fully equipped to do work of the highest grade and its journal has become a magazine of from 130 to 200 pages, with a circulation of over 52,000. To all who desire to see what has been, and is still being, done to further the interests of the profession, a cordial invitation is extended to visit the home of the Association.

DISINFECTANTS.

The importance of disinfection as a measure of public health and safety is now so well established that anything that tends to deceive with a false sense of security concerning its effective performance becomes a public menace. It is hardly surprising, therefore, to find attention drawn, in an article by Dr. S. Rideal,[1] to the fact that vast quantities of so-called disinfectants are sold that are worthless for the purpose intended, possessing merely deodorizing properties. Dr. Rideal asserts that one dealer told him that he had sold such worthless fluids in an increasing ratio from 28,000 gallons in 1905 to 66,000 gallons in 1907. There is, therefore, great need of a standard of germicidal efficacy and of an official test. It must not be forgotten that the presence of organic matter along with the germs materially interferes with the effect of germicides, especially those that act by oxidation; and that in Nature such an admixture of organic matter is practically always found. It is easy, when testing a so-called germicide in the laboratory, by bringing it into direct contact with germs to cause it to show a much more potent effect than when used under ordinary conditions, hence the most unscrupulous claims can be made by manufacturers by a *suppressio veri* without departing from strict truth in what is actually asserted. When a worthless germicide is sold it is not merely an individual wrong to the purchaser. It may become a matter of serious moment to the community by causing the unwitting exposure of others to the danger of infection under the justifiable supposition that all such danger has been removed.

A BRITISH VIEW OF AMERICAN UNIVERSITIES.

The following advertisement appeared in the Chicago Sunday *Tribune*, May 17:

> PERSONAL—
> A gentleman [unregistered] practicing dentistry in England is desirous of obtaining D.D.S. or M.D. diploma of some American state university if possible. Particulars to . . . Liverpool, Eng.

The "gentleman" who owns up so naively to breaking the laws of the country in which he lives, by practicing dentistry without being registered—presumably because he has no registrable degree—pays this country a dubious compliment. Obviously, he considers "American state universities" either venal in the matter of their degrees, so that he can purchase a D.D.S. or an M.D. degree, or at any rate so lax in their requirements of curriculum and examination that it would pay him to spend the extra money entailed in a trip to, and a sojourn in, this country, as compared with the greater expenditure—as he supposes—of time and gray matter that a British degree would exact. But even when he had obtained this D.D.S. or M.D. it would not admit

1. Testing Disinfectants, Jour. Trop. Med. and Hyg., May 1, 1908.

him to the British register in the absence of a British diploma. The suggested alternative of an M.D. degree for one practicing dentistry, however, hints that it is the title of "doctor" that he is after, rather than a certificate of proficiency in his art. Possibly, being located in Liverpool, he hopes to catch an American *clientèle* by holding himself out as an "American dentist." There are, however, enough genuine American dentists in most of the large cities of Great Britain, who have respected the honor of their profession by complying with the requirements of the foreign country in which they reside, to make it unnecessary in the interests of American travelers to lend the prestige of an American degree—and that under false pretenses—to a foreigner for the purpose of enabling him to evade the laws of his own country with greater effect. The "gentleman" is a little late. The days of diploma mills are all but over.

Medical News

ARIZONA.

Personal.—Dr. Henry A. Hughes, Phœnix, sustained serious injuries in a runaway accident near Phœnix recently.——Dr. John W. Foss has been re-elected president of the Board of Trade of Phœnix.

Reports of Tuberculosis Cases.—The city council of Prescott has passed an ordinance declaring tuberculosis to be among the communicable diseases, and that it shall be the duty of every physician in Prescott to report to the health officer the particulars regarding every case of tuberculosis which he may see.

State Medical Society Meeting.—The seventeenth annual meeting of the Arizona Medical Association was held in Tucson, April 27-28. A surgical clinic was given by Dr. Mark A. Rogers at the Whitwell Hospital, and a banquet was given by the local profession in honor of the visiting delegates. The following officers were elected: President, Dr. Arthur W. Olcot, Tucson; vice-presidents, Drs. John W. Foss, Phœnix, Clarence E. Yount, Prescott, and Albert L. Gustetter, Nogales; secretary, Dr. John W. Flinn, Prescott; treasurer, Dr. Enoch B. Ketcherside, Yuma; and councilor, Dr. John E. Bacon, Tombstone. The next meeting will be held in Prescott in May, 1909.

ARKANSAS.

Indian Doctor Fined.—"Dr." James, an Indian, was fined $25 at Jonesboro, May 6, for violating the state statutes regarding the sale of medicine.

New Board of Health.—Drs. F. M. Scott and W. R. Owens have succeeded Drs. Robert J. Haley and Henry N. Dickson as members of the board of health of Paragould, and Dr. James G. MacKenzie has been appointed a member of the board.

Commencement.—The second annual commencement exercises of the Medical Department of the Arkansas University, Little Rock, were held May 1, when the degrees were conferred on a class of nineteen by Governor X. O. Pindall. Dr. Morgan Smith delivered the faculty valedictory, and the doctorate address on "The Ideal Physician from the Layman's Point of View" was delivered by Dr. Henry S. Hartzog, president of Ouachita College. The faculty of the Medical Department of the university gave a banquet at Hotel Marion, May 13, in honor of the alumni of the medical department.

Society Meetings.—At a meeting of the Polk County Medical Society, held in Mena, May 1, the society was reorganized under the supervision of Dr. R. H. T. Mann, Texarkana. The following officers were elected: President, Dr. William P. Parks; vice-president, Dr. John R. Davis; secretary-treasurer, Dr. Frank A. Lee; and delegate to the State Medical Society, Dr. John R. Davis, all of Mena.——At the recent meeting of the Nevada County Medical Society held in Prescott, Dr. Adam Guthrie, Prescott, was elected president; Dr. Simeon J. Hesterly, Prescott, vice-president; Dr. C. C. Purtie, Emmet, secretary; and Dr. Josiah S. Chastain, Prescott, delegate to the state society.

ILLINOIS.

Personal.—Dr. Sanford P. S. Edwards has resigned as physician in charge of the Tri-City Sanitarium, Moline.——Dr. and Mrs. Walter W. Greaves, La Salle, sailed for Europe, May 27.

Northwestern Alumni Meet.—During the meeting of the Illinois State Medical Society, Peoria, the alumni of Northwestern University Medical School met at luncheon at the Hotel Majestic, May 20, 47 being present.

Communicable Diseases.—There are reported to be 10 cases of smallpox at Mapleton.——Three cases of smallpox were reported in Joliet, May 19.——There are said to be 21 cases of smallpox in East Peoria.——Twelve cases of diphtheria have been discovered in Ferry Hall, Lake Forest, The health commissioner says the threatened epidemic is now well in hand.

State Society Election.—At the annual meeting of the Illinois State Medical Society, held in Peoria, May 19, 20 and 21, the following officers were elected: President, Dr. Joseph W. Pettit, Ottawa; vice-presidents, Drs. J. Leaming Wiggins, East St. Louis, and Elmer M. Eckard, Peoria; secretary, Dr. Edmund W. Weis, Ottawa (re-elected); treasurer, Dr. Everett J. Brown, Decatur (re-elected); delegates to the American Medical Association, Drs. Edmund W. Weis, Ottawa; Robert T. Gillmore, Chicago; James F. Percy, Galesburg; and Levin H. A. Nickerson, Quincy; and councilors, first district, Dr. Jeremiah H. Stealy, Freeport; second district, Dr. Charles C. Hunt, Dixon, and seventh district, Dr. William K. Newcomb, Champaign. The society decided to meet in Quincy, May 18 to 20, 1909.

Chicago.

Election.—At the annual meeting of the Physicians' Club, May 15, the following officers were elected: Chairman, Dr. Henry B. Favill; secretary, Dr. Edwin B. Tuteur; treasurer, Dr. Charles L. Mix; and directors, Drs. Henry B. Favill, George E. Baxter, Daniel A. K. Steele, Alfred C. Croftan and Charles E. Paddock.

Communicable Diseases.—There were 660 cases of contagious diseases reported during the week ended May 23, an increase of 107 as compared with the preceding week, distributed as follows: Measles, 353; scarlet fever, 88; diphtheria, 70; tuberculosis, 57; chicken-pox, 39; whooping cough, 23; typhoid fever, 20, and smallpox, 1.

Commencement.—The Chicago College of Medicine and Surgery (Medical Department of Valparaiso, Ind., University), held its annual commencement exercises in Valparaiso, May 19, when degrees were conferred on a class of 100 by President Brown. Addresses were made by Dr. George F. Butler, Wilmette, and Hon. Patrick H. O'Donnell, Chicago.

Low Death Rate.—During the week ended May 23, 495 deaths occurred, the lowest death rate noted since records have been kept. During the previous week there were 635 deaths and during the corresponding week of 1907 641 deaths, the respective annual death rates per 1,000 being 11.92, 15.29 and 15.80. All the important causes of death except diphtheria, measles and nephritis show a lowered mortality. Pneumonia decreased 17; measles, 16; apoplexy, 15; diarrheal diseases, 12; typhoid fever and consumption, each 9; whooping cough, 6; bronchitis, 5, and scarlet fever, 4. There were also 27 fewer deaths from violence, including 3 less suicides.

INDIANA.

Result of Merger.—The Indiana University School of Medicine is the name of the new medical school formed by the amalgamation of the Indiana Medical College and the State College of Physicians and Surgeons. The graduation exercises of both colleges were held at Bloomington May 20, when a combined class of 74 was graduated. Dr. Allison Maxwell presented the names of the graduates of the State College of Physicians and Surgeons, and Dr. Edward F. Hodges those of the Indiana Medical College.

Not the Same Coleman.—Dr. C. A. Coleman, Bloomington, calling attention to a news item in THE JOURNAL of April 11, which states that "J. H. Coleman, Bloomington, charged with practicing medicine without a license, is said to have pleaded guilty, March 20, and to have been fined $25 and costs," requests THE JOURNAL to publish the statement that he is not the individual of that name referred to; and that the Coleman arrested and indicted was a farmer and an itinerant cancer specialist, who got into trouble at Bedford.

Society Notes.—The Vigo County Medical Society has so amended its constitution as to omit all reference to exclusive

systems in medicine, thus making every legally registered physician in the county eligible to membership. The annual dues of the society were raised from $2 to $5.——At the meeting of the First District Medical Society at Jeffersonville, May 2, Dr. William L. McClain, Scottsburg, was elected president, and Dr. David Cohen, Jeffersonville, secretary.——At the annual meeting of the Second District Medical Society, held in Bloomington, May 13, Dr. John E. Harris was elected president; Dr. Gallagher, vice-president; and Dr. George F. Holland, secretary-treasurer, all of Bloomington.——The Fort Wayne Academy of Medicine has elected Dr. Allan Hamilton, president; Dr. Willis W. Carey, vice-president; Dr. Herman G. Nierman, secretary; and Dr. Garrette Van Sweringen, treasurer.

KANSAS.

Verdict Against Physician.—In the case of Dr. Joseph E. Miller, Salina, who was sued for $10,000 damages by reason of alleged improper treatment, whereby a broken arm was permanently crippled, the jury on April 11 is said to have found a verdict against the physician and assessed damages at $2,500.

Society Meetings.—At the annual meeting of the Southeastern Kansas Medical Association, held in Chanute, Dr. Middleton L. Perry, Parsons, was elected president; Dr. Lewis D. Johnson, Chanute, secretary, and Dr. Millard F. Jarrett, Fort Scott, treasurer. The next meeting will be held at Independence.——The Golden Belt Medical Society, at its recent meeting in Abilene, elected Dr. Daniel E. Esterly, Topeka, president; Dr. Peter B. Witmer, Abilene, vice-president; and Dr. Sutherland, Junction City, secretary.

MARYLAND.

Personal.—Dr. Claiborne H. Mannar, Rockville, has been appointed secretary of the Montgomery County board of health and health officer for the county, vice Dr. William L. Lewis, Kensington.——Dr. Jephtha E. Pitsnogle, Hagerstown, has been appointed health officer of Washington County, vice Dr. Christian R. Scheller.——Dr. Phillip Lee Travers has been appointed health officer of Easton.

County Society Meets.—The Baltimore County Medical Society, at its annual meeting, held in Towson, May 1, elected the following officers: President, Dr. Richard F. Gundry, Catonsville; vice-president, Dr. Benjamin R. Benson, Cockeysville; recording secretary, Dr. Harry C. Hess, Govonstown; corresponding secretary, Dr. Richard C. Massenburg, Towson; treasurer, Dr. William L. Smith, Sherwood; and delegate to the Medical and Chirurgical Faculty, Dr. H. Louis Naylor, Pikesville. It was decided to publish a history of the society.

Baltimore.

Health Department Flag.—The health department has adopted as its official flag one of yellow bunting with a red cross in the center. It will hereafter be hoisted from the department headquarters in the city hall annex.

Railway Relief Work.—The relief and hospital work of the Baltimore & Ohio Railroad, for many years under the supervision of the late Dr. Isaac R. Trimble, has now been placed under the care of Drs. Page Edmunds, St. Clair Spruill and Archibald C. Harrison.

Commencement.—Baltimore Medical College held its annual commencement exercises May 21, when a class of 82 was graduated. Drs. Thomas McCall Anderson and William Reginald Marshall received the gold medal and the degree of M.D. *manga cum laude*, the highest college honor.

Tuberculosis Hospital.—The Jewish Hospital for Consumptives in the suburbs of Baltimore will be dedicated June 11. There will be a large building containing accommodation for 30 advanced cases and a smaller cottage with accommodation for 6 incipient cases. It is expected that other cottages will be built. Dr. Louis P. Hamburger is president and Dr. M. R. Smirnow has been elected resident physician.

Personal.—Drs. Harvey G. Beck, C. Urban Smith and Charles F. Blake sailed for Bremen, May 21.——Dr. Albert H. Carroll left May 19 for Brazil, where he will be in medical charge of a railway construction camp near the source of the Amazon.——Dr. Ahmed Hussein Laki sailed for Genoa, May 16.——Dr. John A. Sperry has been appointed chief of staff of the Church and Home Infirmary.——Dr. Daniel W. Cattell has been elected vice-president, Dr. Robert S. Kirk, superintendent, and Dr. John Roth, assistant superintendent of the Baltimore Eastern Dispensary.

MICHIGAN.

Medical Society Meeting.—At the annual meeting of the Dickinson-Iron Counties Medical Society, held in Crystal Falls, the following officers were elected: President, Dr. John B. Brasseur, Norway; vice-president, Dr. Abner M. Darling, Crystal Falls; and secretary, Dr. Henry A. Newkirk, Iron Mountain.

Object to Contract Work.—The physicians of Houghton County, at a meeting of Houghton County Medical Society, May 4, adopted resolutions authorizing the president of the society to name a committee of two to draw resolutions against the practice of some members of the profession of making contracts for medical examination of members of fraternal organizations.——The members of Oakland County Medical Society have signed an agreement not to make contracts with lodges for medical examinations after December 31.

MONTANA.

Physicians Win Suits.—In the suit of Dr. Christopher Turner against the city of Butte for $221.50 for damages sustained to his horse, buggy and himself by obstructions in the street, was given a verdict of $200 by the jury.——In the suit of Dr. George B. Owen, Butte, against John Ring for $100, for services rendered the sister of the defendant, it was decided in favor of the plaintiff in the lower court. and the jury in the District Court, on appeal, decided in favor of the defendant.

Society Meeting.—At the annual meeting of Silver Bow Medical Society, held recently in Anaconda, the following officers were elected: President, Dr. William L. Renick, Butte; vice-president, Dr. Thomas C. Witherspoon; secretary, Dr. Phœbe A. Ferris; treasurer, Dr. MacCormick Smetters; trustees, Drs. William L. Renick, John C. Schapps, Grace W. Cahoon, Laura Keisker, and Stokes; Drs. Matthews, Edward F. Maginn, Richard C. Monahan, Isadore D. Freund and Gideon E. Blackburn, delegates to the state medical association, and Dr. John R. E. Severs, John B. Sullivan, Frederick W. McCremon, Creswell T. Pigot and John W. Gunn, alternates.

NEW YORK.

Personal.—Dr. Carl G. Leo-Wolf, Niagara Falls, sailed for Europe last week.——Dr. Irving D. Williams, superintendent of Otisville Sanitarium, has resigned, to take effect in August.

Scarlet Fever Epidemic.—During the first two weeks of May 74 cases of scarlet fever were reported to the health board of Buffalo.——On account of scarlet fever, Caldwell school has been ordered closed.

Dispensary to Open.—The Good Samaritan Free Dispensary recently incorporated will open June 1, with Dr. Thomas B. Carpenter as president and Walter S. Goodale, secretary-treasurer of the staff.

Fined for Illegal Practice.—In the case of Charles J. Flaherty, Mount Morris, charged with the practice of medicine without registration, the defendant is said to have been fined $250 by County Judge Carter, at Geneseo, April 13.

Sale of Cocain and Eucain.—Assemblyman A. E. Smith's bill permitting the sale of cocain and eucain in wholesale lots by manufacturers to other manufacturers and wholesale dealers and druggists has been signed by Governor Hughes.

Must Not Distribute Samples.—The department of public health, Buffalo, is undertaking a vigorous enforcement of the ordinance, which requires distributors of printed matter of all kinds to take out a license. In case of medicine, the formula for the preparation must be submitted to the department as a prerequisite for a license.

College Commencement.—The commencement exercises of Albany Medical College were held May 19. Rev. George Alexander, D.D., chancellor of Union University, delivered the annual address and conferred the degrees. At the annual meeting of the trustees Dr. Andrew McFarlane was made professor of physical diagnosis and medical jurisprudence; Dr. Arthur G. Root, professor of diseases of the throat and nose; and Dr. Leo H. Neuman, professor of gastroenteric diseases and clinical professor of theory and practice of medicine. The resignation of Dr. Richard M. Pearce, professor of pathology and bacteriology, was accepted.

Society Meetings.—A permanent antituberculosis society was organized at Canandaigua, April 12, with the following medical men among its officers: Dr. Orlando J. Hallenbeck, vice-president, and Dr. Alfred W. Armstrong, secretary.——The Northwestern New York Health Officials' Association met in Watertown, April 23 and 24, and perfected its organization. Major J. H. Durham, Cape Vincent, was elected president; Dr. Stephen A. Russell, Fulton, vice-president from Oswego

County; Dr. Edward S. Willard, Watertown, from Jefferson County; Dr. Benjamin W. Severance, Gouverneur, from Lawrence County; Dr. Howard A. Bassett, Lowville, from Lewis County; and Dr. Albert L. Morgan, Dexter, secretary-treasurer.——At a meeting of the recently incorporated Rochester Health Association, held May 1, the following medical men were elected officers: Corresponding secretary and supervising director, Dr. Montgomery E. Leary; and directors, Drs. M. May Allen and Edward B. Angell.——The Woman's Medical Society of the State of New York filed certificate of incorporation with the secretary of state, May 2. The directors are Drs. Sarah R. A. Dolley, Rochester; Mary H. Cotton, New York City, Mary Innis Denton, Buffalo, and Florence A. Sherman, Watertown.

Tuberculosis Bill Signed.—Governor Hughes has signed the bill introduced by Senator Cassidy declaring tuberculosis to be an infectious and communicable disease, dangerous to the public health, and providing for the reporting of all cases to the local health authorities. It provides for the free examination of sputum by the health authorities, for the protection of the registration records from public inspection, and for the disinfection and renovation of the premises after the death of a person having tuberculosis. The occupation of premises vacated by a tuberculous person is prohibited until the directions of the health department providing for disinfection and renovation have been complied with. The bill was lengthy and some of the important sections follow:

Section 8 makes it the duty of the physician to take all reasonable precautions for the protection of individuals occupying the same house with any one having tuberculosis. If there be no physician in charge of such patient, this section provides that this duty devolves on the health officer.

Section 9 provides that the attending physician shall report to the health officer, on blanks to be furnished for this purpose by said officer, a complete statement of the procedure and precautions taken by him in a case of tuberculosis coming to his notice, and the physician shall receive for his services a fee of $1. If the physician does not desire to take these preventive measures and make this report, the duties therein stated shall devolve on the health officer, who shall receive said fee. The health officer is required to keep on hand and furnish suitable supplies and literature to physicians to aid in preventing the infection of others.

Section 10 provides a penalty for the failure of physicians or others to execute the duties imposed by this act, or for making false reports, the penalty not to exceed $100, or six months in prison or both.

Section 11 provides for the reporting by physicians of the recovery of the tuberculosis patients, and for their release thereon under the provisions of the law.

Section 12 makes violation of any section of this act a misdemeanor, punishable by a fine of not less than $5 or more than $50.

New York City.

Cocain Seller Convicted.—Edward Santagata, a Mott Street druggist, is said to have been convicted May 14 of selling cocain without a physician's prescription.

Gift to Vanderbilt Clinic.—Mrs. Ray Matshak, as a memorial to her husband, has given money to equip a department for surgical mechanico-therapeutics at the Vanderbilt Clinic of the College of Physicians and Surgeons.

Bushwick Hospital Reorganized.—The board of directors of this institution has asked for the resignation of all the members of its visiting staff. The letters asking for resignations say that the scheme includes the erection of a new building and an addition to the staff.

Death Rate Decreases.—The death rate for the week ended May 16 was 17.28, as against 17.91 per 1,000 for the corresponding week of last year. Measles and scarlet fever were not so prevalent as in the preceding week. There were 31 fewer deaths from pneumonia than last year.

New Infirmary.—The annual year-book of Trinity Church notes the regret at the necessity of closing Trinity Hospital and states that it is the intention of the corporation to replace the hospital, not by another hospital, but by an infirmary on the original lines, an institution which will be of great value in the care of the poor of lower New York.

Personal.—Dr. and Mrs. Arthur Pell arrived from Europe May 17.——Dr. George Bibier Rambaud has sailed for Cherbourg.——Dr. S. Adolphus Knopf has been elected professor of phthisiotherapeutics to fill the new chair at the New York Postgraduate Medical School and Hospital.

To Aid Tuberculous Patients.—The Young Folks' League for the Home Treatment of Tuberculosis held a meeting on May 19, at which it pledged itself to supply milk, eggs, etc., to tuberculous patients in their homes. This meeting was addressed by Drs. James A. Miller of Bellevue Hospital and Sigismund S. Goldwater of Mount Sinai Hospital.

Loving-Cup to Hospital Corps.—At the annual dinner of the Medical Department of the Thirteenth Infantry, N. G. N. Y., held in Brooklyn, April 30, a loving-cup was presented to the hospital corps of the regiment by Major John B. McCook of the First Infantry, Conn. N. G. Major Henry P. De Forest received the cup on behalf of the hospital corps, and also presented to the corps a portrait of Clara Barton.

Schools Threatened by Epidemics.—More than 150 of the school children of Morris Park and Richmond Hill, Queens Borough, are ill either with measles or scarlet fever. It is admitted by the principal that one or more of the schools will probably be closed. Twenty-eight cases of scarlet fever exist among children living within a few blocks of one of the schools. The day following the above announcement 31 new cases of measles were reported.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended May 16, 1,513 cases of measles, with 35 deaths; 1,173 cases of scarlet fever, with 41 deaths; 409 cases of diphtheria, with 36 deaths; 403 cases of tuberculosis, with 158 deaths; 37 cases of whooping cough, with 4 deaths; 25 cases of typhoid fever, with 6 deaths; 13 cases of cerebrospinal meningitis, with 11 deaths; 134 cases of varicella and 1 case of smallpox, a total of 3,708 cases and 291 deaths.

Health Department Arouses Doctors.—Physicians in this city have received from the Department of Health blanks and information to facilitate the reports of diseases, births and deaths. The first paper was a circular letter beginning, "Permit me to again call your attention to the moral and legal responsibility of physicians to the registration of births." Failure to do this caused the department and parents of children much inconvenience and loss. There was also a copy of the ordinances setting forth the legal duties of physicians.

German Poliklinik Celebrates.—This institution celebrated the twenty-fifth anniversary of its founding by a dinner at the Waldorf-Astoria on May 18, at which the four surviving members of the original fifteen founders of the institution were the guests of honor. These were Drs. Samuel Kohn, Herman J. Boldt, A. H. von Ramdohr and Ludwig Weiss. A silver wreath containing the names of the founders was presented to the woman's auxiliary. The Poliklinik, in the last twenty-five years, has treated nearly 1,000,000 persons free of charge. In its first year 2,869 persons were treated and 8,700 calls were made. Last year 38,739 cases were treated and 82,683 calls were made.

Harvey Society Meeting.—At the annual meeting of the Harvey Society, held May 15, the following officers were elected: President, Dr. James Ewing; vice-president, Dr. Simon Flexner; treasurer, Dr. Edward K. Dunham; secretary, Dr. Francis C. Wood; and council, Drs. Graham Lusk, Samuel J. Meltzer and Adolph Meyer. The society adopted a resolution expressing its cordial appreciation of the great value of the services of Dr. Graham Lusk to the medical sciences of America in the foundation of the Harvey Society and in successfully administering its affairs and placing it on a substantial basis. Dr. Lusk declined re-election as president of the society.

Medicolegal Aid Society Discusses Case of Mr. Marsh.—The meeting of this body on May 20 considered the case of Mr. Marsh of Brooklyn, to whom a physician is said to have administered drugs for the purpose of destroying consciousness before his death from hydrophobia. The president, Mr. Clark Bell, cited the alleged facts of the case that he thought demanded investigation. He said: "The question of how far a doctor may, even at the request of the patient, take the power to remove life and consciousness into his own hands was most serious. If, as is held by many, the mind exerts a powerful influence over the body, what and where was the right of a physician to prevent that power being brought into action?"

OHIO.

Hospital for Crippled and Deformed Children.—A bill has been passed by the legislature establishing two state hospitals for the care of crippled and deformed children, one in the northern and the other in the southern part of the state. The selection of sites is left to a commission of three.

Midwife Convicted.—Julia Michnyak, Barberton, a midwife, charged by the State Board of Medical Registration and Examination with practicing midwifery without a license, is said to have been fined $50 and costs on each of two offenses, April 23, and in default of payment was committed to the county jail April 23.

Tuberculosis Hospital.—Contracts for erection of a commissary building and two sleeping shacks for the Franklin County Tuberculosis Hospital have been awarded at a cost of $11,115.——The Dayton Tuberculosis Society has been offered use of a tract of land on which to erect a cottage for the use of sufferers from tuberculosis.

Sentence Deferred.—Alexander Grytza, a Polish physician of Toledo, is said to have pleaded guilty in the Probate Court, May 1, to the charge of practicing medicine without a license. Sentence was deferred in order to give the defendant opportunity to apply to the state board for a certificate.

Cincinnati.

Additional Medical Service Created.—The great number of patients applying for treatment in the medical wards of the Cincinnati Hospital, the board of trustees at a recent meeting created an additional medical service. Drs. Mark A. Brown and John E. Greiwe were appointed to alternating services of four months each.

Personal.—Dr. Robert Butler, after a year abroad in ear, nose and throat work, will, on his return, be associated with Dr. John A. Thompson.——Dr. Harry H. Hines has been appointed surgeon to the German Deaconess Hospital, vice Dr. Charles S. Evans, resigned, and Dr. Jacob Tuechter has been made pathologist of the same institution.

Alumni Meeting.—The meeting of the Alumni of Miami Medical College, June 1, will be a jubilee to Dr. William H. Taylor in celebration of the fiftieth anniversary of his entrance into the practice of medicine. Dr. Taylor was, for nearly forty years, a teacher in the college. The meeting promises to be the largest in the history of the institution.

PENNSYLVANIA.

Hospital Closes.—The Hanover General Hospital went out of existence April 17.

Contagious Diseases in Institutions.—Sixteen cases of diphtheria were reported in the Wiley Children's Home in South Bethlehem during the past week, and 13 cases of scarlet fever were found in St. Joseph's Orphan Asylum, Pittsburg, during the same period.

Fined for Not Registering Birth.—Drs. William G. Bower and Harvey D. Miller, both of Myerstown, charged respectively with two and six violations of the act requiring registration of births, are said to have pleaded guilty and to have been fined $5 for each violation of the law.

Cottage for Epileptics.—Exercises in celebration of the completion of the new children's cottage of the Pennsylvania Epileptic Hospital and Colony Farm at West Chester were held May 4. The cost of this new addition was $24,000 and the new building will accommodate 25 persons. Dr. Wharton Sinkler, president of the institution, presided, and Dr. Samuel W. Morton, secretary, was chairman of the committee of arrangements. Dr. J. Clifford Scott is superintendent of the institution.

White Haven.—Mrs. Henry Phipps, wife of the founder of the Henry Phipps Institute for the Prevention of Tuberculosis, will provide funds for the erection of a sixteen-bed cottage at the White Haven Tuberculosis Sanatorium. Work on the new cottage will be started immediately.——As a result of the work of the junior auxiliaries of the Free Hospital and White Haven Sanatorium, a new building has been added to the camp at White Haven, erected at a cost of $4,000, and to be used for the treatment of very young patients.

Personal.—Dr. Eugene C. Fetter, Altoona, has been made a member of the Altoona board of health.——Dr. James L. Heard, Northeast, is said to be seriously ill with pneumonia at the Buffalo General Hospital.——Dr. Harry J. Donaldson, Williamsport, who was recently operated on for appendicitis, is reported to be recovering.——Dr. Jonathan C. Biddle, Fountain Springs, has been re-elected superintendent and surgeon-in-chief of the Miners' Hospital, a position from which he resigned several months ago.——Dr. Daniel B. D. Beaver, Reading, returned from a trip to Europe and the Holy Land, April 18.

Philadelphia.

Publication Suspended.—The publischer of *Medical Notes and Queries* announces that its publication will be discontinued with the present issue.

Must Pay Bill.—A. E. Whiting, who was sued by Dr. John H. Gibson for $500 for an operation for appendicitis, was held by the jury to be liable for that amount, and the charge was declared to be reasonable.

Vaccination.—Following the discovery of smallpox patients in Philadelphia, nearly 1,500 of the inhabitants of the locality from which the patients were taken were vaccinated by the medical inspectors of the Isolation Hospital, April 17.

Hospital Contracts Awarded.—The contracts for the erection of six new isolation wards for the new municipal hospital to supersede the old smallpox hospital were awarded by the director of health and charities, Dr. Neff, May 23. The contract also calls for an exit building from the diphtheria ward and a steam by-pass in the boiler house. The buildings are to be constructed of brick and stone and will cost $124,980.

Personal.—Dr. William W. Keen, who is now in Europe, expects to return to Philadelphia at the end of October to resume practice.——Dr. and Mrs. James A. Irwin sail for Europe May 30.——Dr. Albert P. Brubaker sailed for Europe May 16.——The position of chief medical inspector of the Bureau of Health recently made vacant by the resignation of Dr. Andrew A. Cairns was filled by the provisional appointment of Dr. Charles A. Groff, formerly assistant medical inspector.

Women's Medical College Commencement.—The fifty-sixth annual commencement exercises of the Women's Medical College of Pennsylvania were held in the Academy of Music, May 20, when a class of 32 received diplomas from Mary E. Mumford, president of the board of corporators. The valedictory address was delivered by William Hanna Thompson, M.D., LL.D., New York City. There are at present 138 students registered in the college, including the first natives of Hayti, Porto Rico and the Philippine Islands to study medicine. Natives of Japan, India, Russia, China, England, Sweden and Germany are also represented.

Health Report.—The total number of deaths reported for the week ended May 23 aggregated 455, a decrease of 41 from the previous week and a decrease of 44 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 8; measles, 15; scarlet fever, 3; whooping cough, 6; consumption, 65; cancer, 28; appendicitis, 3; nephritis, 44; premature birth, 10; congenital debility, 7; apoplexy, 13; heart disease, 45; acute respiratory disease, 44; gastritis, 5; enteritis, 17; suicide, 8; accidents, 15, and marasmus, 2. There were 173 cases of contagious diseases reported, with 13 deaths, as compared with 151 cases and 17 deaths reported in the preceding week.

Elections.—At the first annual meeting of the Association of ex-Resident Physicians of St. Joseph's Hospital, May 19, permanent organization was effected and the following officers were elected: President, Dr. George M. Marshall; vice-president, Dr. David Motlan; historian, Dr. Joseph Roberts; and secretary and treasurer, Dr. Joseph M. Spellissy.——At the annual meeting of the Alumnæ Association of the Women's Medical College of Pennsylvania, May 21, the following officers were elected: President, Dr. Margaret F. Butler; vice-presidents, Drs. Lida S. Cogill and Miriam M. Butt; recording secretary, Dr. M. Louise Diez; corresponding secretary, Dr. Mary Buchanan; treasurer, Dr. Florence H. Richards; and directors, Drs. Kate W. Baldwin, Matilda Beaver, Caroline E. Smith and Blanca Hillman. At the annual banquet, held at the Hotel Stenton on the evening of the same date, Dr. Sarah H. Lockrey presided.

SOUTH CAROLINA.

Hospital Opened.—On April 15 the new hospital building for Anderson County, at Anderson, erected by public subscription, at a cost of more than $25,000, was formally opened.

County Society Organized.—At a meeting of the physicians of Barnwell County, held recently in Barnwell, a county medical society was organized on the standard plan, and the following officers were elected: Dr. R. C. Kirkland, Barnwell, president; Dr. E. W. Ellis, Martin, vice-president; and Dr. G. F. Hogg, Barnwell, secretary-treasurer.

Personal.—Dr. C. Fred Williams, Columbia, has been appointed health officer by the State Board of Health.——Dr. Henry W. Rice has been appointed city physician of Columbia, vice Dr. C. Fred Williams, resigned.——At the annual meeting of the Alpha Kappa Kappa medical fraternity, held in Charleston, Dr. Edward F. Parker was re-elected primarius.——The office of Dr. A. Robert Able, St. Matthews, suffered serious damage by fire recently.

TEXAS.

Epidemic Diseases.—Physicians of Taylor and vicinity report an epidemic of dysentery.——Smallpox of mild type is reported in Anahuac.

Personal.—Dr. John M. Colley, Palestine, was struck by a buggy recently and fractured his arm at the wrist.——Dr. Charles S. Seafers, Port Arthur, has been appointed assistant surgeon in the P. H. and M.-H. Service and has been placed in charge of the Marine Hospital to be established at Port Arthur.

Commencement Exercises.—On April 30 the annual commencement exercises of the Medical College of Southwestern University, Dallas, were held. Dr. H. E. Bourland delivered the baccalaureate address and the diplomas were given to a class of nine by Dr. R. S. Hyer, regent of the university.——

Baylor University College of Medicine and Pharmacy, Dallas, held its eighth annual commencement exercises April 27, when a class of 11 received diplomas from the hands of President P. S. Brooks. The doctorate address was delivered by President H. H. Harrington of the Agricultural and Mechanical College of Texas.——The College of Physicians and Surgeons of Dallas held its annual commencement April 2. Dr. Arthur C. Bell delivered the address and a class of 13 was graduated.

State Association Meets.—The annual meeting of the State Medical Association of Texas was held in Corpus Christi, May 12, 13 and 14, and the following officers were elected: President, Dr. Hatch W. Cumings, Hearne; vice-presidents, Drs. James M. Inge, Denton; A. Garwood, Victoria, and William A. Wood, Hubbard City; secretary, Dr. Ira C. Chase, Fort Worth; treasurer, Dr. Charles A. Smith, Texarkana; trustee, Dr. Charles E. Cantrell, Greenville; councilors to fill vacancies—second district, Dr. Newton J. Phoenix, Colorado City; sixth district, Dr. Henry J. Hamilton, Laredo; seventh district, Dr. James C. Anderson, Granger; eighth district, Dr. William A. McCamley, Wharton; ninth district, Dr. John T. Moore, Galveston; tenth district, Dr. D. Stuart Weir, Beaumont; twelfth district, Dr. G. S. Reynolds, Temple; and alternate delegates to the American Medical Association, Drs. Russell Caffery, San Antonio, and John O. McReynolds, Dallas. Galveston was selected for the meeting place in 1909.

UTAH.

Law Case.—Dr. Elias S. Wright, Salt Lake City, charged with lack of skill in the treatment of a fractured leg, was granted his motion for a non-suit April 30.

Communicable Diseases.—An outbreak of measles and an increase in the number of smallpox cases is reported from Ogden. ——Scarlet fever is reported to be prevalent in Salt Lake City, where 39 cases were under quarantine May 16.

State Society Meeting.—At the annual meeting of the Utah State Medical Association, held in Salt Lake City, May 7 and 8, the following officers were elected: President, Dr. Ezra C. Rich, Ogden; vice-presidents, Drs. Leslie W. Snow, Salt Lake City; William W. Woodring, Mount Pleasant, and Gilbert W. States, Franklin, Idaho; secretary, Dr. W. Brown Ewing, Salt Lake City; treasurer, Dr. James N. Harrison, Salt Lake City; councilors: first district, Dr. R. S. Joyce, Ogden; second district, Dr. Philo E. Jones, Salt Lake; third district, Dr. Frederic Clift, Provo; and delegate to the American Medical Association, Dr. Samuel C. Baldwin, Salt Lake City. Ogden was selected as meeting place for 1909.

VERMONT.

Board May Seize Impure Food.—In the campaign of the Vermont Board of Health against the sale of adulterated food, an important step was taken May 14, when the board voted to instruct the state inspector of food to seize and destroy all articles of food which on analysis should be found to be below the statutory standard.

Personal.—Dr. L. P. Sprague has been appointed food inspector for Burlington, and Dr. John H. Dodds, city physician, vice Dr. George E. Latour.——Dr. Henry C. Tinkham has assumed his duties as attending surgeon and Dr. Clifford A. Pease as attending physician at Mary Fletcher Hospital, Burlington.——Dr. Charles D. Wilkins, Brattleboro, has been appointed superintendent of the City Hospital, Wilkesbarre, Pa., and assumed his duties May 1.——Dr. Charles E. Chandler, Montpelier, is said to be ill with pleurisy in Northampton, Mass.

VIRGINIA.

Communicable Diseases.—Two cases of smallpox were reported at Gate City, May 2.——There are said to be about a dozen cases of smallpox under quarantine at the Isolation Hospital, Danville.——Norfolk reports scarlet fever prevalent. During April 63 cases were reported.

Personal.—Dr. J. T. Collins, Richland, has been appointed physician of the Henrico County Almshouse, vice Dr. Armistead L. Leftwich, deceased.——Dr. Meade Ferguson, professor of bacteriology and mycology at the Virginia Polytechnic Institute, Blacksburg, has been appointed state bacteriologist and will enter on the duties of his position July 1.——Dr. Joseph A. Gale, chief surgeon of the Norfolk & Western Railroad, has returned after a year's trip abroad.

Commencement.—The faculty of the University College of Medicine, Richmond, held its annual commencement exercises May 19; Dr. Stuart McGuire, president of the faculty, delivered an address and the doctorate address was made by President J. Gray McCallister of Hampden-Sidney College. A class of 44 was graduated.——The commencement exercises of the Medical College of Virginia, Richmond, were held May 20, when a class of 38 was graduated. Capt. Joshua F. Bullitt, Big Stone Gap, delivered the doctorate address.

WASHINGTON.

Infectious Diseases.—The following infectious diseases were reported in Seattle during March: Diphtheria, 56; smallpox, 35; scarlet fever and measles, each 12; tuberculosis, 5; typhoid fever, 5, and varicella, 3.

Fined for Breaking Quarantine.—Miss Helen Hunt, who while quarantined for scarlet fever, Seattle, escaped and went to her home in North Yakima, has been brought back to Seattle and fined $10 for violation of quarantine.

Illegal Practitioners.—James Austin Larson, Seattle, is said to have been fined $100 and costs for practicing medicine without a license.——Dr. R. W. Blakesley, Georgetown, who was convicted of practicing medicine without license and sentenced to imprisonment of ninety days in the county jail and to pay a fine of $100, was released April 19 on the expiration of his sentence, the judge remitting the fine.

GENERAL.

Coming Meeting.—The eleventh annual meeting of the Medical Library Association will be held in the John Crerar Library and the Chicago Public Library, June 1, under the presidency of Dr. George Dock, Ann Arbor, Mich. In the evening the association will have its annual dinner at the Union League Club.

Pathologists Meet.—At the annual meeting of the American Association of Pathologists and Bacteriologists, held in Ann Arbor, Mich., April 17 and 18, the following officers were elected: President, Dr. Harold C. Ernst, Boston; vice-president, Dr. Philip H. Hiss, New York City; secretary, Dr. Frank B. Mallory, Boston; treasurer, Dr. Herbert W. Williams, Buffalo; and member of council, Dr. E. R. LeCount, Chicago. The council voted to hold the next meeting in the new Harvard Medical School, Boston.

American Association of Medical Milk Commissions.—The "Proceedings of the First Annual Conference of the Medical Milk Commissions of the United States" demonstrate the good work that is now being done toward the purifying of the milk supply, a matter surely of the utmost importance, in regard not only to present sanitation, but also to the upbuilding of the race. The work accomplished by the respective commissions of twelve cities of the United States is detailed in this report that it is stated that fourteen other cities have taken steps looking toward the establishment of similar organizations. The association will hold its next annual meeting at the Chicago Beach Hotel, Monday, June 1, at 10 a. m.

Fifth Pan-American Medical Congress.—This meeting will take place in Guatemala, Central America, August 5 to 10. The trip can be made from New York, New Orleans or San Francisco directly to Guatemala, returning by Mexico and Cuba to the eastern states, or by Mexico and New Orleans to the eastern states and the middle west, or by Mexico to the middle states and far west. Any physician or surgeon of good standing desiring to participate in the congress can send the title of his paper to the proper one of the following secretaries:

GENERAL MEDICINE—Dr. Judson Daland, Philadelphia.
GENERAL SURGERY—Dr. Emmett Rixford, San Francisco.
HYGIENE, DEMOGRAPHY AND EPIDEMIOLOGY—Dr. T. Darlington, New York.
NERVOUS AND MENTAL DISEASES—Dr. Chas. Hughes, St. Louis.
TROPICAL MEDICINE—Dr. John Swan, Philadelphia.
MILITARY SANITATION—Dr. L. L. Seaman, New York.
OPHTHALMOLOGY—Dr. Bert Ellis, Los Angeles.
NOSE, THROAT AND EAR—Dr. W. S. Bryant, New York.
PATHOLOGY AND BACTERIOLOGY—Dr. Walter Chase, Boston.
GYNECOLOGY, ABDOMINAL SURGERY AND OBSTETRICS—Dr. H. P. Newman, Chicago.
CHILDREN'S DISEASES—Dr. C. G. Kerley, New York.

The itineraries of the trip have not been made as yet, but will be included in the next notice. Ramon Guiteras, M.D., secretary, 75 West Fifty-fifth Street, New York.

The American School Hygiene Association.—The awakening interest in the matter of the public health and the better appreciation of the responsibility of the medical profession to the public, finds its expression in a wider appreciation of the importance of providing improved school conditions for the children of the community, that is to say, in what is commonly spoken of as school hygiene. The obstacles to progress lie in the inertia and lack of information on the part of the general public and in the absence, up to a recent date, of any organized movement to keep the matter before the public. Any progress in legislation must be made independently by the various state legislatures or by the governments of the indi-

vidual cities. Progress can not in any event be as rapid as in England, where a recent act of parliament provided medical school inspection for the whole of England. In this country, therefore, we are particularly dependent on the interest and education of the public which makes the laws and provides the money, and beyond the point to which the public is educated no progress will be made. The American School Hygiene Association was formed in May, 1907, for the purpose of interesting and educating the public in school hygiene, and has recently held its second annual meeting. This association, which comprises in its supporters many leading educators and physicians, now proposes to issue a small monthly magazine for the purpose of presenting to the American public the progress in school hygiene made in this and in other countries, to call attention to the fact that in America we are far behind the countries of Europe, to present abstracts of important papers on the subjects of medical inspection, school house construction, lighting, ventilation, and seating and playgrounds, and in general to serve as a sort of clearing-house for all information bearing on improved school conditions. The secretary is Dr. Thomas A. Storey, New York City.

Alienists Meet.—The sixty-fourth annual meeting of the American Medico-Psychological Association was held at Cincinnati, May 12 to 14. The large gathering assembled was addressed by the mayor, Leopold Markbreit; Dr. Charles A. L. Reed, on behalf of the American Medical Association; Dr. Charles L. Bonifield, for the Ohio State Medical Association, and W. B. Melish, for the citizens of Cincinnati. At the evening session the address was made by Judge Judson Harmon, Democratic nominee for governor of Ohio. Judge Harmon among other matters discussed the subject of expert testimony, giving a number of examples of it within his personal knowledge as a lawyer and as a judge. He declared that insanity should never be used as an excuse for crime, quoting the famous remark of the judge who said, "If a man has an uncontrollable desire to kill, the law has an uncontrollable desire to hang him." He greatly interested the large audience. On the second day the following officers were elected: President, Dr. A. F. Kilbourne; vice-president, Dr. W. F. Drury, Petersburg, Va.; secretary, Dr. Charles W. Pilgrim, Poughkeepsie, N. Y.; councilors, Drs. F. W. Langdon, Cincinnati; L. M. Perry, Parsons, Kansas; H. L. Palmer, Utica, N. Y.; Charles G. Hill, Baltimore; W. H. Hattie, Halifax, N. S.; auditor, Dr. J. M. Buchanan, Meridian, Miss.; committee on resolutions, Drs. H. M. Hurd, Baltimore; G. A. Blumer, Providence, R. I., and S. C. Smith, Richmond, Ind. A visit to Longview Asylum was made, where luncheon was served. In the evening Dr. Henry M. Hurd, superintendent of Johns Hopkins Hospital, in a paper on "Psychiatry as a Part of Preventive Medicine," severely criticised present educational methods, believing that it is wrong for subnormal and other defective children to be mixed with normal ones at school. Dr. Charles Pilgrim, Poughkeepsie, N. Y., in his paper on "The Proper Size of Hospitals for the Insane," advocated having smaller hospitals for not to exceed 1,500 patients rather than the immense ones recently built and planned. The third day's work was opened by Dr. Richard H. Hutchinson with a paper on "Tuberculosis in Hospitals for the Insane." He stated that out of 140,343 deaths from all causes 14,027, or approximately 10 per cent., are due to tuberculosis. Dr. Charles W. Hitchcock, Detroit, in a paper, "Imbecile, Criminal or Both," decried the fact that a man could escape the penalty of high crime by a plea of insanity and then come again before the bar of justice and ask for his release on the ground that he is not insane. After the morning session the members were taken to the College Hill Sanitarium, the guests of Dr. F. W. Langdon, for lunch, followed by inspection of the institution. In the evening session an address was made by Dr. A. W. Ferris on "Italian Immigration and Insanity." Contrary to the general opinion, he said the Italians stand fifth in the list and not first, as generally supposed, being preceded in a lowering ratio by the Austrians, Hungarians, Russians and Germans. The society selected Atlantic City for the next annual meeting.

FOREIGN.

Congress on Hydrology and Climatology.—The Ninth International Congress on Hydrology and Climatology was held at San Remo, Italy, April 12 to 15, under the presidency of Dr. U. Martemucci.

Increase in Number of Medical Students in Germany.—Our exchanges state that the number of medical students has increased from 6,008 in 1905 to 7,574 in 1907. The Leipsic League had 2,000 applications last year for positions from young medical men, many of whom it was impossible to place.

Practical Medicolegal Training in Accidents.—Both at Berlin and Munich there is now a special postgraduate course on the forensic aspect of industrial accidents as affecting the attending physician. Practical training in the making out of certificates is given, and the classes attend the proceedings in the courts in suits for claims for industrial indemnity.

English Hospital Work in Egypt.—According to the *British Medical Journal*, by an arrangement between the British government and the authorities of the German Deaconesses' Hospital at Alexandria, the British consular surgeon has permanent charge of twenty-five of the fifty beds which the hospital contains. To this hospital are admitted sailors and others of British nationality suffering from illness or accident.

Clinic for Occupation Affections.—Milan has inaugurated a clinic for the study and treatment of professional or occupation affections and diseases, as has already been mentioned in these columns. Prof. L. Devoto, professor of medical pathology at Pavia, has been transferred to the new clinic and chair for the pathology of industry, and G. Pieraccini has recently qualified at Florence for the post of "private docent" in this branch of medicine.

Personal.—Dr. H. R. Silvester, London, whose name is associated with a well-known method of resuscitating the apparently drowned, died recently, leaving an estate valued at $127,060.——Drs. Raikes and Wray, government medical officers at Singapore, have died of plague contracted while performing a postmortem examination on a patient who died in quarantine. Dr. L. Merveille, editor of the *Gaz. Méd. Belge*, and a pioneer in the organization of the profession in Belgium, recently was given a banquet on the twenty-fifth anniversary of his entering editorial and professional work.

The Trouble at Cologne.—The large sick benefit societies at Cologne, Germany, have recently repudiated their agreements with their medical officers and now insist on conditions which the organized profession is unwilling to accept. Backed by the Society for Promoting the Material Interests of the Profession (*Leipziger Verband*) and the good wishes of the profession, the medical officers have resigned, and now face a bitter struggle, the most important that has been waged since this society was first started a few years ago. Local medical societies throughout the country are passing resolutions endorsing their action and expressing sympathy.

The Quacks and the Movement for Sexual Enlightenment.—Our German exchanges state that a number of prominent "nature fakers" have seized the opportunity of the movement for enlightenment of the young in matters of sex to deliver illustrated lectures on such themes. One exchange regards the present condition in this respect as "an actual calamity for the country." Illustrated lectures for men only have been held at Frankfurt and elsewhere, but at Solingen, where two such lectures had been advertised in one week, with 10 cents admission, the police interfered. At Liegnitz the technical high school was addressed on this subject by a charlatan from Berlin. The subject has also been brought into the drama; one of the plays dealing with it has had a year's run at Berlin and is now said to be planning to come to this country.

Notes from Jena.—Our German exchanges state that the approaching three hundred and fiftieth anniversary of the Jena university will witness the dedication of the new university buildings erected by public and private subscriptions, including a gift from the Carl Zeiss microscope works. The "nature healers" have petitioned to have a chair organized at the university for "nature healing," that is, for their system of dietetic and physical therapy. The petition had 2,000 signatures, including the sick benefit societies, whose officers gave as their reason for endorsing the petition that this method is "cheaper than regular medicine" for their policy holders. The committee to whom the petition was referred in the legislature invited the members of the legislature to visit the medical clinic at Jena, and showed them there the innumerable scientific appliances and arrangements for physical and dietetic measures. The petition was tabled.

Silver Jubilee of the French Ophthalmological Society.—The *Société Française d'Ophthalmologie* celebrated on May 3, the twenty-fifth anniversary of its foundation and reviewed its history. Hess of Würzburg brought greetings from the German sister society, on which the French society was modeled; Berry, from the Great Britain society; van Duyse, from Holland; Verderau, from Spain and Spanish America; Angelucci, from Italy; Briend, from Egypt, and Beauvois, from Mexico. A number of delegates from societies representing other specialties were also present. The festivities continued with a reception at the Saint-Germain museum, where A. Terson delivered an address on the instruments used by the oculists of

Gaul and ancient Rome. A banquet followed, and a souvenir medal was presented to each member. The twenty-fifth annual congress opened the next day, the main topic for discussion being "Treatment of Wounds of the Eyes." More than sixty communications were presented, including one on the value of pyocyanase in ophthalmology.

Organization of the Profession in Denmark.—The municipal authorities at Copenhagen have had some difficulties with the younger physicians connected with the hospitals, the latter demanding better remuneration and certain privileges which the authorities refused to grant, having recently voted to reduce the remuneration below that in the provinces. The local society took up the matter and all its members, including the university professors, signed an agreement not to accept the subordinate medical positions in the hospitals until a satisfactory arrangement was made with the younger set. The municipal authorities yielded at once, so that a satisfactory agreement was concluded not only at Copenhagen, but in the other large towns, which promptly followed the example of the capital. Meyer writes to the *Münch. med Wchnschr.* that it is impossible to overestimate the moral effect of this victory, encouraging organization and establishing a precedent for future dealings with sick benefit societies, etc. The Copenhagen medical society (Aerzteverein) has since bought the *Ugeskrift for Læger* which is henceforth to be its weekly official organ.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, May 9, 1908.

Action Against a Local Authority for Contamination of a Well with Typhoid Sewage.

In a previous letter (THE JOURNAL, February 29, page 701), the successful action of Dr. Ferguson, proprietor of a hydropathic establishment at Malvern, against the district council for allowing the well from which he obtained water to become contaminated with typhoid sewage was reported. An outbreak of typhoid fever occurred in his establishment and, having guaranteed in his prospectus the perfection of his sanitary arrangements, he was mulcted in damages by various persons to the extent of $35,000. He recovered damages from the council to the amount of $37,500. On appeal this verdict has been quashed. Sir Gorell Barnes in giving judgment said that the jury had found that the water was not the plaintiff's but the defendants'; that the plaintiff had no license from the defendants to take the water. By so doing he had placed himself in the position of a trespasser. There could be no negligence on the part of the defendants, for there was no duty on them to see that the water which flowed from the well into a pond was free from sewage. On these findings of fact by the jury the plaintiff's case wholly failed.

The Prevention of Sleeping Sickness in Uganda.

The governor of Uganda has promulgated a very drastic ordinance to prevent sleeping sickness. The vast territory under his rule is placed under the conditions of an infected area. The mainland within a distance of two miles of the great lake, Victoria Nyanza, and all the islands are under severe restrictions. Within two miles of the shore fishing is prohibited, and the purchase of fish caught within that area is made an offense. No person is allowed to ply on the lake and traffic is permitted between the islands and the mainland only under certain conditions, which include the use of assigned landing places.

Protection Against the X-Rays.

At the London Hospital elaborate precautions are now taken to prevent injury to operators from the *x*-rays. All the necessary apparatus for controlling the machines which produce the *x*-rays are enclosed within a chamber built of wood, armored with thick lead and provided with windows with lead glass impervious to the *x*-rays. At some distance is the *x*-ray tube which, with the exception of an orifice which limits the emission of the *x*-rays to this area, is surrounded with a lead-glass shield. The shield is only partially impervious to the *x*-rays, allowing a weak *x*-ray discharge, which is accompanied by an electrical discharge. The latter is intercepted by the lead lining of the chamber and conducted to earth. The operators are also equipped with aprons, spectacles, and gloves made from material impervious to the *x*-rays.

Infant Mortality.

As has been shown in previous letters, the prevention of infant mortality has recently attracted considerable attention both from the profession and the public. The rate for the past year shows a satisfactory decline. The deaths of infants under one year per 1,000 births amounted to only 118, which is much lower than any recorded since the inauguration of civil registration in 1837. This is the climax of a reduction which has been going on for some years. In the decade 1891-1901 the mean annual rate was 154, whereas in the first seven years of the present century it was only 134.

Observations on the Tsetse Fly.

Prof. E. A. Minchin, who occupies the recently established chair of parasitology and protozoology in the University of London, has made some important observations on the trypanosomes of the tsetse flies and other diptera. In 1905 he went to Uganda for the purpose of studying the life cycle of the *Trypanosoma gambiense* in relation to the tsetse fly, but without any results of importance. Incidentally, however, he made observations on another species of trypanosome occurring in the tsetse fly which may be useful to future investigators. He found swarms of trypanosomes in the alimentary canal of the tsetse fly of a species distinct from the *Trypanosoma gambiense*, which is the cause of sleeping sickness. The mode of infection with the *Trypanosoma gambiense* appears to be different from that with the malarial parasite. In malaria the mosquito is a true host in which the parasite goes through a complicated developmental cycle after which, and only then, is it able to infect man. In infection with the *Trypanosoma gambiense*, on the other hand, the protozoon is simply inoculated mechanically by the proboscis of the fly and this is possible only for a period of forty-eight hours.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, May 10, 1908.

First International Congress on Laryngology and Rhinology.

The First International Congress on Rhino-Laryngology, together with the Türck-Czermak jubilee, was held at Vienna, April 21 to 25. There were nearly 500 physicians in attendance, twenty-eight of whom were from the United States and thirty-three from Great Britain and Ireland. Each member received as a souvenir of the jubilee a medal having on it a portrait of the men in whose honor it was held. The social side of the congress was as well provided for as was the scientific. The members were given a reception by the governor of Lower Austria and a banquet by the mayor of Vienna.

The sudden death of the honorary president, Prof. Leopold von Schrötter, only twelve hours after his brilliant historical address, cast a gloom over the proceedings, and the congress had the sad duty of selecting a committee to do the last honors to its chief officer.

The convention was opened by the reading of several reports by men of international fame. "Teaching of Laryngology, Rhinology and General Medicine" was the subject of a paper by Professor Fränkel (Berlin), and Professor Lermoyez (Paris); others were "General Treatment of Local Disease of the Upper Air Passages" by Sir Felix Semon (London); "International Congresses on Laryngology and Rhinology" by Professor Jurasz (Heidelberg), and "Treatment of Tuberculosis of the Upper Air Passages" by Dr. Joseph W. Gleitsman (New York City). In deference to the visiting members, the Vienna physicians postponed their papers until the last day of the convention. Professor Glück (Berlin) spoke of his method of dealing with cancer of the larynx, advocating total extirpation; the correlation between disease of the posterior accessory nasal sinuses and ocular disease was discussed by Professor Onodi (Budapest), and Professor Kuhnt (Königsberg), and some remarkably fine anatomic specimens were shown. The treatment of laryngeal tuberculosis was freely discussed and several papers read on the subject. The value of *x*-rays in the diagnosis of diseases of the nose and throat was dealt with in papers by Professors Gradenigo (Turin), Burger (Amsterdam) and Killian (Freiburg). The use of transillumination in diseases of the sinuses was discussed by Professor Vohsen (Frankfurt), and a series of papers was read on disturbances in the motility of the vocal cords in neurotic and tabetic laryngeal crises. Professor Denker (Erlangen) described his method in surgery of the nose by way of the mouth, claiming for it results that can be accomplished in no other way.

A committee was appointed to determine the time and place of meeting of the next congress. During the meeting a very interesting exhibit was held at the university; unlike so many of these exhibits, it was not in any sense a commercial one, but was of scientific and historical interest only. There were shown the first laryngoscope, the original clinical pictures by Türck and Czermak which formed the basis for their well-known atlas, and there were numerous rare pathologic specimens from the laryngologic clinic at Vienna and a collection of instruments for bronchoscopy and intranasal work.

Pharmacology

THE BROADER AIMS OF THE COUNCIL ON PHARMACY AND CHEMISTRY.

TORALD SOLLMANN, M.D.

Member of the Council, Professor of Pharmacology and Materia Medica at the Medical Department of Western Reserve University.

CLEVELAND, OHIO.

X. TESTIMONIAL WRITERS.

(*Continued from page 1706.*)

The psychology of advertising—what a theme for an essayist! The "catchy" phrase, word, or name; the plausible argument; the aggressive statement; the persistent reiteration—who is so sapient that he has not at one time or another succumbed to them? A clever advertisement is as insidious as a drug-habit; once tampered with, it requires a distinct effort of the will, a firm resolution to resist, and human resolutions are fragile.

Honest advertising is a necessary feature of civilization—at least it is not an unmitigated evil. Fraudulent advertisements are one of the curses of civilization. A "concealed" advertisement is always dishonest; dishonest because it travels under false pretenses; dishonest because it tries to avoid the natural caution of the reader; and, usually, dishonest also in its statements. It is, however, one of the favorite forms of proprietary advertising. Advertising in the journals, advertisements in the form of "literature" (much abused word), even calendars, blotters and visiting lists are relatively unobjectionable. But what of the "reading notice"? What of the inspired "original scientific article"? And what of the "original package," which, with all its untold possibilities, goes to the confiding patient neatly wrapped in the respectability of the prescribing physician?

TESTIMONIALS AND THEIR WRITERS.

Proprietary advertising has two specialities—frank, legitimate advertising, as in any other business; and testimonials. I use the word "testimonial" in its broadest sense, to include the "original" write-ups. The guild of testimonial-writers contains some honest enthusiasts; some who find this an easy means to get their names into print; some who do the hack-work; and not a few who have achieved greatness of a kind.

There is Dr. Blank, quoted in THE JOURNAL, Dec. 9, 1905, whose first tuberculosis patient happened to improve under Bioplasm, and who feels that he owes it to humanity to report his marvelous success. A year later, the patient reposes peacefully under the sod; but the testimonial lives on. The doctor wishes that he had waited the outcome.

There are the testimonials of the Lambert Pharmacal Company, the Eusoma Chemical Company, the Bioplasm Company, the Abbott Alkaloidal Company, and countless others, to furnish examples of blind enthusiasm run riot. Every imaginable disease is cured by Listerine or Eusoma, or Bioplasm, or Calcidin. It is quite unnecessary to know anything of medicine or surgery to practice, if only you use these and similar great boons freely—this may explain their popularity with the writers.

Have these testimonials been paid for? For the credit of the medical profession, I hope that most of them have not; I prefer to believe that the large proportion of our profession who write testimonials have been blind and thoughtless dupes, rather than knaves. "The large proportion" is not an exaggeration. Within the last few years, I have had occasion to examine much of this proprietary "literature," and I have always been impressed by the extent of this testimonial evil; but I must confess that I had a very inadequate idea of its actual magnitude, until I saw the cold figures. There is a most interesting exhibit at the Association headquarters—a card index of the testimonial writers and of the testimonials for proprietary medicines, written by and for physicians. This index was only started two and a half years ago, and of course, makes no claims to completeness. Nevertheless, in this collection there are registered eight thousand testimonials. EIGHT THOUSAND! Most of these are evidently the work of amateurs, and hence presumably not paid for; some 90 per cent. of the physicians there recorded are only credited with testimonials for one product—but the index is evidently incomplete. There are others who appear to have the "habit" very badly. There is a list of about twelve men who each average over a dozen different products.

THE CHAMPION TESTIMONIAL WRITER.

The championship appears to belong to a Dr. W. R. D. Blackwood of Philadelphia, who heads the list with twenty-eight different products to his discredit. His taste seems to be rather catholic. A Dr. J. R. Hayes of Washington, D. C., specializes mainly on Thialion, but he finds time for a few others, and achieves the unique distinction of condensing endorsements for thirteen proprietary articles into a single paper, modestly entitled "Preventive Medicines and Measures." This is an "original communication" to the *New England Medical Monthly*—a publication which I understand is owned by the same parties who manufacture Thialion!

REMUNERATION FOR TESTIMONIAL WRITING.

Of course, the multiple endorsements are not in themselves legal proof of improper motives. Even when the testimonials of a physician are confined to the indiscriminate endorsement of all the products of one firm, the evidence is merely circumstantial—if that is any salve to the self-respect (?) of the writers. In fact, I have the impression that this industry is very often unpaid, and at least generally underpaid, when one considers the fees received by other professional advertisement writers. Statistics are difficult to obtain. Through a happy accident we know the tariff of the Lehn & Fink Company, who have recently obtained so much notoriety anent Purgen,[1] and "Rheumatism and Gout."[2]

But we have no evidence that this tariff of ten dollars a printed page is the general one; or, indeed, that it is uniform with this firm—I rather suspect that it is not.

Should not the guild of testimonial writers combine and stand out for better pay and a union scale? I had the impression that a certain pseudo-scientific "society"—founded a couple of years ago and readily identified by the fact that it quoted as its members people who had never given their consent—had for its main object the "organization" of the business; but I have no idea that a uniform scale of pay was any part of the program of its founders.

The fact is, however, the *specialists* of this business have no need for organization or for better pay. They must already have reduced the business of testimonial-writing to a fine system, to spare the time for this commercial work from their extensive literary, clinical and pedagogic activities; I have evidence that they are quite able to take care of the financial side of the business. They do not need our sympathy; and they are impervious to all appeals that could be made to honorable men. They should be made to feel, however, what the profession thinks of those who do not hesitate to exchange for commercial gain, not only their own paltry honor, but also the loyalty and confidence of their pupils and followers; and even the interests of science itself.

THE PATHOS OF IT.

A much sadder spectacle is presented by the "professor of pharmacology" of a medical college of good standing, located

1. The Journal, Nov. 2, 1907, 1544.
2. Ibid., Feb. 29, 1908, 704.

in the middle West, when he writes a bald two-page advertisement, such as I have before me, of a "Pill of Life," a typical lost-manhood cure—saw palmetto, phosphorus, strychnin, iron—signed with the full name and title of its writer. This is a sad prostitution of what should be an honored position to a disreputable purpose—that of lending respectability to the advertisement of such a remedy. It has, however, at least one merit: there are no false pretenses. "Goods paid for and delivered" can be read plainly in every line, and the blush of the writer seems to suffuse the page. One can only hope that this is the first and last offense.

There is another, and even more pathetic tale, of a true scientist who had earned the everlasting gratitude of the medical profession, but who was forced by financial straits to risk his dearly earned reputation in testimonial writing. The lapse was but temporary, and into one of the most legitimate forms of the business, but one can easily imagine what it must have cost him. Are these pangs of conscience, this loss of self-respect, not to speak of the respect of others—are these ever worth the meager price? That is a question which each man must decide for himself. But to those honest enthusiasts who think that they are benefiting humanity by writing testimonials—to these I would say: Await results before you commit yourself. When you have written a testimonial, lay it aside for a year—the world can afford to wait that long—and then see whether you are still as enthusiastic. Remember that most testimonials outlive the enthusiasm of their writers; that a testimonial which has left your hands is out of your control—you can not effectively stop the abuses to which the business interests of the manufacturer may put your well-meant endorsement.

(*To be continued.*)

Correspondence

Use of Alcohol in Medicine.

HOMER, N. Y., May 18, 1908.

To the Editor:—The department of medical temperance of the Woman's Christian Temperance Union has for some years been endeavoring to instruct women regarding the danger of the use of alcoholic liquors and other powerful drugs as family remedies. This work has been done by the circulation of leaflets and pamphlets embodying the teachings of leading medical men, who make little or no use of alcoholic drinks in the treatment of disease, and who warn against the self-prescription of habit-forming drugs.

As superintendent of this work for the National Woman's Christian Temperance Union, I have received much help from physicians; indeed, without such assistance it would have been presumptuous for me to undertake such a task. It is my wish to secure, so far as possible, the cooperation of physicians all over the country. I should be very grateful for copies of pamphlets bearing on the alcohol question, or on the nostrum evil, or the drug habit. I should also like to receive for publication brief opinions of the medical use of alcoholic liquors from physicians who are in sympathy, to some extent, with the views of the late Nathan S. Davis, and of such men as Sir Frederick Treves and Sir Victor Horsley. I should like especially to receive such opinions from professors of medicine and from physicians having large hospital experience. The publication of such medical opinions as I have been able to gather from kind replies to my personal inquiries, and from medical journals, has been an important factor in the anti-saloon fight in the southern states.

May I ask that physicians who are in sympathy with this medical temperance movement will send me at least their names and addresses? Anyone who would be willing to give public addresses in his own city or town, under the auspices of women's organizations, on alcohol or on the nostrum evil, or on public health generally, I should be very glad to list for reference.

It may interest physicians to know that I have sent out about 10,000 copies of the "Great American Fraud" during the last three months, and I hope to use many more. As I was the originator of the public agitation against "patent" medicines I am naturally delighted to have this pamphlet to circulate.

MRS. MARTHA M. ALLEN.

A New Cure Alleged for Syphilis.

CHICAGO, May 16, 1908.

To the Editor:—In these days of progress, scientific and commercial, it is indeed a startling discovery that will shock us out of our self-satisfied contentment with the wonderful century in which we live. The other evening, however, I sat up and took notice. I had picked up, in an idle moment, a recent number of a little magazine called *Eternal Progress*, devoted to the development of the individual by autosuggestion. I was in search of the ludicrous, which I had often found on its most seriously written pages, when my attention was caught by the following query from a disciple:

> Some years ago I contracted syphilis, and as I am about to marry, would like to find a remedy. Would dieting for thirty days produce a cure? R.

Then I read, to my surprise and delight, what ought to make the proud discoverer famous as the greatest benefactor of the human race since Jenner. I quote *verbatim:*

> The best remedy for any venereal or blood disease is fasting. A fourteen day fast will cure most cases. Mild cases could be cured in a fast of eight or ten days. The proper way to fast is to take no food whatever; but to drink an abundance of cool water. The mind should be calm, and should deeply feel that no food will be required during the fast.
>
> Give no thought to food; but think only of your object in view, and fully expect to secure the desired results.
>
> Try to prevent all ills by right living and right thinking; but should ailments come, combine metaphysical methods of cure with fasting, and you will soon be well. Ordinary ills can be cured by fasting three or four days, and in less time if metaphysical methods are employed. The same results may be obtained by living wholly on a limited amount of raw fruit, perfectly ripe; but thirty, sixty or ninety days would be required.

What a noble mind is this! With what easy grace all human ailments are disposed of! What can equal the audacity of pretentious ignorance! For ignorance we, in charity, must assume it to be. But stay. Perhaps in our haste we have misjudged. In view of the approaching marriage of the correspondent, his evident neglect of treatment (or how could he ask such a fool question?) and his conscientious desire to protect the partner of his joys, perhaps it would be sufficient to emphasize the editor's treatment, and prescribe an absolute fast of sixty days. Better still, quicker and requiring less mental effort to "give no thought to food; but think only of your object in view," let him hold his breath for a short time, say sixty-seven minutes, and he need never fear a recurrence of his dread disease.

But seriously, should not the editor be compelled to limit his advice to "explaining fully the nature of cosmic consciousness," as he does on the opposite page with great lack of clarity? When the apostle of the oversoul begins to treat syphilis by a two-weeks fast isn't it time to put the brakes on *Eternal Progress* and find out what the results will be?

A. W. STILLIANS.

"Milk and Tuberculosis."

CHICAGO, May 16, 1908.

To the Editor:—I have read with great interest the article on this subject by Dr. Gorton in THE JOURNAL, May 16, 1908. As the doctor was kind enough to quote remarks I made at the meeting of the New York State Medical Society, please publish these corrections. The institution was not the Infant Asylum, but the New York City Children's Hospital. Twenty-nine cows and one bull were tested. Twenty-six cows reacted. Seventeen of them are marked on the veterinarian's postmortem report as having many tuberculous foci in the lungs. One only had a diseased udder, and she had no lung involvement, though the retropharyngeal glands were also involved. Twenty-two were generalized, eleven having involved posterior mediastinal glands and five diseased pleura. Dr. W. H. Park had samples of milk and feces taken from each cow and injected into guinea-pigs. After six weeks they were killed and none showed tuberculosis.

The children were given Calmette's test and the von Pirquet inoculation. Nine-tenths of those who reacted had obvious cause for it, but in one-tenth tuberculosis was unsuspected or had been previously cured. These facts prove little but show that a badly infected herd does not necessarily give virulent milk as shown intentionally in the guinea-pig inoculations and unintentionally in the case of the children.

WILLIAM L. STOWELL.

Association News

OUR FOREIGN GUESTS.

The information necessary for the following biographic sketch of Dr. Jansen was not forthcoming until the form containing the other biographies (page 1792) was on the press.

Albert Jansen.

Albert Jansen was born in 1859 at Hildesheim, Prussia; he studied medicine at Tübingen, Göttingen and Munich, graduating at the latter place in 1884. He was assistant to Bernhard Bardenheuer at Cologne from 1884 till 1887 and to Johann Lucae at Berlin from 1887 till 1897. He has been privat docent at the University of Berlin since 1895 and is the author of many publications dealing with suppuration of the nose and ear. Dr. Jansen will open the discussion on the symposium on the "Technic of Cranial Surgery" at the joint meeting of the Sections on Surgery and Anatomy and Laryngology and Otology.

VISIT THE A. M. A. BUILDING.

Members Should Inspect the Association's Plant and Equipment.

The American Medical Association holds its session this year in the city of its headquarters. All members are cordially invited to visit the Association building at 103 Dearborn Avenue. It may be reached from the business center by taking a North State Street car to Indiana Street, and then walking west to Dearborn Avenue. If one is in the vicinity of the First Regiment Armory, one may take a Wabash Avenue or State Street car and transfer down town to one of the cars first mentioned, or one may walk four blocks west from the Armory to Clark Street and take a north-bound "Route 22" car which goes straight through the business district to the North Side. One may leave this car at Indiana Street as first described.

REGISTER EARLY.

Importance of Early Registration on Monday to Avoid Congestion.

Members are earnestly requested to register as early as possible. It will be a great advantage if those who are in Chicago on Monday will register on that day. Those who arrive early Tuesday morning should register, if possible, before the General Meeting which takes place at 10:30; they will be ready to attend the section meetings which commence at 2 o'clock in the afternoon. The place of registration is the First Regiment Armory, corner of Sixteenth Street and Michigan Avenue.

BRING YOUR POCKET CARD.

Members are urged to bring with them their pocket cards of membership. This will save them not only time and annoyance, but will facilitate registration of others.

More Railroad Rates.

The Eastern Canadian Passenger Association has made a rate of one and one-half fares, good going and returning over the same route only. Tickets will be on sale from Kingston, Sharbot Lake, Renfrew and west on May 28, 29, 30 and June 1; east of these points on May 27, 28, 29 and 30.

The Chicago, Rock Island & Pacific Railroad and the Chicago & Alton Railroad have made a rate of one and one-half fare.

The above announcements have been received since the last statement in THE JOURNAL concerning railroad rates. In the issue of May 16, page 1623, we recorded the fact that the New England Passenger Association, the Trunk Line Association and the Central Passenger Association had granted a rate of one and one-half fare.

Alumni Meetings.

An especial feature of the Chicago session will be "Alumni Night." Tuesday evening will be given up to the banquets and other entertainments given by the various Sections of the Association, and to the reunions of the various colleges. A long list of these reunions and entertainments was given in THE JOURNAL, May 16, indicating that "Alumni Night" will be a gala occasion. The general alumni headquarters will be on the second floor of the Auditorium Hotel, Congress St. and Michigan Ave. Members are requested to register there as early as possible.

The following additional announcements have been received:

COLUMBIA: The alumni of the College of Physicians and Surgeons in the City of New York (Columbia University) are to attend the Majestic Theater on the evening of June 2, after which there will be a lunch and smoker at Tom Jones' Restaurant.

HARVARD: The local alumni of Harvard Medical School plan to entertain visiting Harvard medical men during the session of the American Medical Association, June 2-5. Headquarters will be at the General Alumni Headquarters in the Auditorium, where a register of Harvard men will be kept and where any information may be obtained concerning the session and Association affairs. An informal dinner (each cover $2) will be given at the Great Northern Hotel, June 2, at 6 p. m., at which every man holding any degree from the university will be welcome. The committee requests that acceptances be mailed at once to Dr. Henry F. Lewis, Room 1404, 42 Madison Street, Chicago.

NORTHWESTERN (1892): The class of 1892 of the Northwestern University Medical School have a reunion and dinner at the Chicago Athletic Club on the evening of Friday, June 5.

Will Entertain Visiting Mystic Shriners.

Medinah Temple A. A. O. N. M. S. will hold a special meeting in honor of visiting Nobles in attendance on the Chicago session of the American Medical Association Friday evening, June 5, at Walton Place and Dearborn Avenue.

Miscellany

Damages for Fraudulent Testimonial Used by Pinkham Company.

A case in law, revealing a shameless practice, was that which Miss Frances Wynne brought on May 12 last against the Lydia E. Pinkham Medicine Company. The plaintiff, a comely and healthy young woman of 22 years, had been a salesgirl in a New York department store. Her photograph had at one time taken a prize in a newspaper "beauty contest." One morning thereafter she found the young women with whom she had been working vastly amused over a newspaper containing her portrait, in "low cut dress," and with the following testimonial accompanying it:

"Miss Elizabeth Wynn, of 205 Eighth Avenue, New York City, writes: 'For months I suffered with dreadful headaches, pain in the back and severe hemorrhages, was weak and out of sorts all the time. Lydia E. Pinkham's vegetable compound helped me when all other medicines had failed. It seemed to be just what I needed and quickly restored my health.'"

The advertisement appeared also in other New York newspapers. This had not been the plaintiff's address, and the spelling of her name had been slightly changed. The portrait was certainly hers. How had it come into the hands of the

Lydia E. Pinkham Company; and in what way had the testimonial been procured?

Some time before the circumstances here stated one Margaret Tierney, a co-employé of the plaintiff, had told her that a Miss White, a customer of the store, had known of her success in the beauty contest, admired her greatly and desired that she go to a designated photographer and sit for him, at Miss White's expense. For this favor she was to receive all but one of a dozen copies, the remaining one to be exhibited in the photographer's show-window. The plaintiff complied. She testified on the stand that she had never signed her name to anything; except as stated, she had had no idea whatever of the purpose for which her photograph was ultimately to be used. She had suffered none of the things stated in the testimonial; she had not taken anybody's vegetable or any other kind of compound. The Tierney girl admitted having signed the plaintiff's name to the testimonial, which had been given her for this purpose by Miss White. She insisted, however, that she had received the plaintiff's permission to write down her name, while admitting, however, that the latter had never seen the document. When asked why she had used the name Elizabeth instead of Frances she averred she had presumed that to be the plaintiff's proper name, inasmuch as the young women in the store had been in the habit of calling the latter Bessie. She further stated that she had told the plaintiff there might be a lot of mail coming to her after the pictures had been taken; and that if she didn't want such letters to come to her they might be forwarded to an address where an aunt of the Tierney girl lived. This was the address given in the testimonial. The Tierney girl had during five years been helping Miss White to get similar pictures, but had never received any pay for it.

Clara A. White testified that she was engaged by James T. Wetherell, an advertising agent of No. 221 Columbus Avenue, Boston, to get testimonials from women for the Lydia E. Pinkham Company. (Samuel Hopkins Adams informs us,[1] by the way, that Lydia E. has herself long ago passed beyond the help of her own or any other remedy.) Deponent stated her occupation to be literary work; she writes testimonials which she gets other people to sign. She had never seen the plaintiff, whom she had presumed had consented to pose as one of the healed. Miss Tierney had told her that the plaintiff was willing to accept some photos in the usual way, and that she supposed the plaintiff had seen and approved the testimonial which she (Miss White) had prepared. Wetherell admitted on the stand that he was under contract with the Pinkham Medicine Company to handle their advertising; and that he had employed Miss White to procure his testimonials.

The plaintiff's counsel declared that her position had been made unbearable by the constant jibes and derision of her fellow work-women, "how was her poor back getting on, etc." In consequence of these things she had to give up her situation. It was held in her behalf—and quite justly, we think—that her opportunities of a good marriage were seriously jeopardized by the disgusting and mortifying statements which were made concerning her health in the testimonial.

The jury's verdict was rendered for the plaintiff on the basis of a law of 1903 of New York State, which forbids the use of any portrait for trade purposes without the written consent of the original. And damages to the amount of $6,000 were accorded her. For the public it is well that by means of this case there has been exposed the revolting business of farming out on a contract basis, at so much per, pictures of, and testimonials from, the alleged healed, which are oftentimes—as is here evident—fraudulently obtained.

Atheroma and Diet.—M. Loeper (*Arch. des Maladies du Coeur*, etc., January, 1908) goes over the list of alimentary poisons that have been experimentally found to cause atheromatous vascular degeneration. Certain substances contained in meat seem toxic; phosphoric acid, for example, and lactic or sarcolactic acid, which in the hands of Fischer, of Boveri, and of himself have been shown to produce well marked lesions of the vessels. It is probable also that the alkaloids normally present in certain flesh foods, such as in game killed after severe exertion in the chase, and that of certain fishes and crustacea, may be vasomotor poisons. Some vegetables are very rich in oxalic acid, which in minute doses is a vascular irritant. Poisonous fungi are sometimes eaten, while other species, considered generally innocent, contain undeniably toxic principles, such as the helvellic acid in the morel. In fruits the malates, tartrates, and their salts can not be held entirely harmless, nor can vinegar and many spices like mustard, pepper and capsicum. Next to adrenalin, capsicum is one of the most powerful agents for experimental production of atheroma. Tea, coffee and chocolate in excess are vascular poisons. Even the common mineral salts of lime, soda, magnesium, etc., when too freely taken, may have bad effects; Loeper and Boveri have found that excessive calcareous alimentation aggravates the lesions of experimental atheroma. Food should be taken fresh, as when putrid it contains acids, alkaloids, ptomains and leucomains, some of which act directly on the vessels as well as on the nervous system. The ergot of certain grains produces very striking atheromatous experimental lesions of the vessels. Foods also give rise to toxic waste products that cause atheromatous degeneration of the vessels. Uric acid has been observed by Sicard and Et. Brissaud notably to aggravate the atheroma due to small doses of adrenalin. In this connection, Loeper says that in all the experiments on which his paper is based, the results of inflammation of the vessels were excluded; in none of these was sclerosis of the vessels produced. The mechanism of atheroma seems to him to be by direct irritation of the vascular walls. The hypothesis of an excitation of the trophic nerves seems hardly well supported; the hypertension theory is even less probable as many of the agents are tension lowering, and finally it is difficult to invoke a hyperfunctioning of the suprarenals, which he found hypertrophied in only one instance. In discussing the practical bearings of these facts, Loeper says that while we should avoid a diet of falsified and toxic products, and for certain patients a very restricted range should be allowed, the absolutely atoxic diet is impracticable. The living organism is constantly producing its own poisons, by the mere fact of its living, and we can not conquer atheroma. What we want to do is to prevent its overcoming us.

Acute Paraplegia After Preventive Treatment of Hydrophobia.—E. Müller reports in the *Deutsche Ztschr. für Nervenhk.*, April 30, 1908, a case which resembles twenty-four in the literature in which acute paraplegia followed Pasteur treatment. It began a week or two after the first preventive inoculation, and the complete paralysis of the legs was accompanied by severe functional disturbances in the bladder and rectum. In these cases there may also be stiffness in the muscles and in the joints, with or without rheumatic, lancinating and neuralgic pains. The paralysis may extend to the arms and threatening bulbar symptoms may be observed. Notwithstanding the tempestuous development of the severe paralysis, the prognosis is remarkably favorable. There are no spasms in swallowing or dyspnea as in true hydrophobia, and after a few days or weeks all the symptoms rapidly subside to complete recovery, as a rule, although two out of the twenty-five cases known terminated fatally. Treatment should be limited to interruption of the Pasteur treatment and solicitous general care. His patient was a man of 36, a veterinary surgeon, and the paralysis lasted two weeks. When the patient seemed lost beyond relief the symptoms began gradually to abate, and in three months the patient was able to walk. In three months more the last traces of the nervous trouble had vanished. He cut his finger while incising the abdomen of a rabid dog; the wound was duly cauterized and dressed at once, and preventive Pasteur treatment commenced the third day.

To Promote Rapid Healing of Abscesses.—S. Gucciardello of Rome makes an incision not more than 1 cm. long and squeezes out the contents of the abscess by pressure on and around it, protecting the skin with cotton from contact with the pus. When the abscess has thus been evacuated and pure blood follows the squeezing, he appplies a small pad of cotton wrung out of a bichlorid solution. Over this he applies a disc cut

1. The Great American Fraud, p. 63.

from a sheet of gelatin, moistening it in a bichlorid solution to soften it, and then patting it down over the abscess and cotton until it adheres to the skin around. No further protection is necessary. The next day the gelatin disc is removed; the incision is found closed. It is opened again and the contents of the abscess are expressed, after which a fresh pad of cotton and a fresh disc of gelatin are applied as before. By this means, he says, the abscess heals remarkably promptly, with the minimum disfigurement. His communication on the subject was published March 1 in the *Wiener klinische Rundschau.*

Non-secrecy in Medicine.—I see no reason why what are called "patent medicines" should not be required to have the formula by which they are compounded attached to their labels. . . . I suppose it will be said that if you required the "patent-medicine" man to disclose his formula there would be an end of the "patent-medicine" business. Well, I do not know that anybody but the "patent-medicine" man need regret that.—Henry Labouchere, M.P., in *Truth.*

Paralysis from Use of Creosote.—The *Siglo Medico* states that at a meeting of the Madrid Academy of Medicine, February 29, Mariani reported that paraplegia developed in a patient, a nun, a month after a systematic course of creosote phosphate had been instituted in treatment of pulmonary tuberculosis. Other members stated in the discussion that they had encountered about a dozen cases of paralysis following the administration of creosote phosphate.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

LENHARTZ DIET IN GASTRIC ULCER.

JACKSON, MICH., May 25, 1908.

To the Editor:—Please inform me as to what constitutes the Lenhartz diet in gastric ulcer. W. H. ENDERS, M.D.

ANSWER.—The Lenhartz diet was described in THE JOURNAL, Jan. 26, 1907. It consists of a somewhat abundant diet, chiefly of proteids, given on the principle that the excess of acid is thereby neutralized and the healing of the ulcer facilitated. The patient is put to bed and absolute rest enjoined, so that the first two weeks following hematemesis the feces and urine are passed in a bedpan. Mental quietude is also enjoined, especially freedom from any form of excitement. Confinement to bed is continued for at least four weeks. An ice bag is laid over the region of the stomach to promote the contraction of that organ, lessen the exposed surface of the ulcer and relieve pain. On the first day, even after hematemesis, the patient receives in teaspoonful doses about half a pint of iced milk and one, two or three fresh beaten eggs during the first twenty-four hours. The eggs are beaten up entire with a little sugar and the cup containing them placed in a dish filled with ice, so that they remain cold. In addition two or three times a day or oftener, bismuth subnitrate in, at most, 30-grain doses, is given, suspended in water, and these doses are repeated, as needed, for the first ten days, two or three times a day. The amount of milk is increased daily by about 100 c.c. (3½ ounces) and daily one egg is added until at the end of the first week about 800 c.c. (26 ounces) of milk and six to eight eggs are taken daily. After six days scraped beef can be given in quantities increased from the beginning dose of 31 gm. (one ounce) to 70 gm. (2½ ounces) the second day, and so on, the beef being stirred into the egg. Gruel, softened zwieback, etc., may be added to the diet after two weeks, and at the end of four weeks an abundant mixed diet, avoiding coarse vegetables and other irritating substances, can be given. The bowels are kept open by enemata.

The method is described by M. Wagner (*Muench. med. Wochschr.*, Jan. 5, 1904) and also by J. V. Haberman (*Medical Record*, June 16, 1906). This method was tested by E. Wirsing (*Archiv. f. Verdaungskrankheiten*, xi, 3), in comparison with the method of Leube, and he reaches the conclusion that it is better than the older method for patients who have had recent hemorrhages or who are much debilitated, but that the method of Leube should be given the preference in ordinary cases. His article was reviewed in THE JOURNAL, 1905, xlv, page 1122.

This form of treatment has been tested by Lambert in eight cases of a severe type (*Amer. Jour. Med. Sci.*, January, 1908, abstracted in THE JOURNAL, Feb. 8, 1908, p. 480), and he comes to the conclusion that the claims of Lenhartz are correct: that the cure is equally efficient with the older method, is more rapid and more certain, vomiting and pain stopping more quickly and relapse occurring less frequently than in the Leube method; that pain ceases more promptly, a sufficient food supply is afforded, anemia can be treated earlier, and a return to full diet allowed sooner than in the older method.

THE PREPARED BREAKFAST FOOD QUESTION.

FORT CLARK, TEXAS, May 19, 1908.

To the Editor:—Will you kindly express an opinion as to the advisability of allowing the so-called breakfast foods to be eaten regularly by those who look to the physician for advice on such matters? My usual advice is that oatmeal, corn-grits and all "whole grain," preparations are certainly not harmful; but that "Force," "Grape Nuts" and "Elija's Manna" are unknown quantities which may or may not be harmful. Will you elucidate the question and include in your answer a statement as to whether or not "Postum" is advisable as a substitute for coffee? P

ANSWER.—The results of analyses of the various "breakfast foods" agree in showing that they are composed of wholesome grains or their more valuable constituents. There is no evidence that they are diluted with bran, corn cob, corn stalk, etc., as has been claimed, or that they contain any injurious substances. As a rule, they are nutritious and digestible foodstuffs, and on these grounds nothing can be said against them. They represent a relatively expensive form of food, however, in proportion to their nutritive value. Oatmeal and other of the cereals that have long been on the market, and which can be bought in bulk without paying for the enormous expenditures in advertising and promotion carried by the advertised "breakfast foods," are many times as cheap, and for most persons every bit as good. The preparation of the breakfast foods converts part of their insoluble starches into soluble dextrins, but well-cooked cereals prepared in the ordinary manner contain a larger proportion of soluble materials than the "ready without cooking" breakfast foods. If a person likes the taste of the fantastically named breakfast foods on the market, and wishes to pay the price for them, there is no objection to their use; and the advantage to the labor-saving housewife of not having to cook breakfast may also be worth considering. There is another point, however: The form in which the prepared breakfast foods are offered for use and recommended to be eaten greatly favors mastication. Perhaps the greatest benefit securable from their use is due to this fact. The mushy cereals, rendered still more fluid by the addition of cream or milk, may be gulped down by the dyspeptic without any chewing whatever. It is almost impossible to omit the first step in digestion, however, in many of the dried breakfast foods—unless one soaks them for some time. In these days of hasty eating the value of this feature is considerable.

Postum is a "hot brown drink," and in so far is a substitute for coffee. It is probably harmless.

LOUSY FISH OF ALASKA.

CHITTABALBIE, KOREA, ASIA, March 26, 1908.

To the Editor:—Along the coast of Alaska the fish near shore have a scabby eruption and are known to the miners as "lousy fish." These fish are not eaten by white men, but the Siwash Indians eat them freely. These Indians have an eruptive disease of the skin called by miners and travelers "fish leprosy," which they assert is caused by eating these shallow water "lousy fish." It is also asserted by men who have lived there that beneath each scab on the fish there is to be found an organism which is visible to the naked eye, which they call a "fish louse," and that the eruption on the fish is identical with that on the natives who feed on them. I would be pleased to know what this disease in the Siwash Indians is and what relation it bears to the fish they eat and, if no relation exists, the particular organism which produces this disease in the fish. Why should this disease be confined to shallow-water fish? If there exist no recorded observations on this subject, it seems that it would be an interesting field for investigation. I am fully aware of the fish theory for the production of leprosy. If this disease in the natives of Alaska is leprosy and it is identical with the disease found in the fish they eat it appears that the deductions to be made are important. J. W. NOLAN, M.D.

ANSWER.—The above letter was referred to the Bureau of Fisheries of the Department of Commerce and Labor, Washington, D. C., and the following reply was received: "This bureau does not understand that the so-called 'leprosy fish' are so common or frequent on the Alaska coast as Dr. Nolan's letter would seem to indicate. The probabilities are that this story is simply an exaggeration of statements or observations made on the various species of salmon at or near their spawning time. As the spawning time of the Pacific salmon approaches, their bodies become more or less distorted, the back becomes humped, the jaws become hooked, the scales become embedded, and the flesh becomes spongy and relatively devoid of oil. Sooner or later, chiefly on account of abrasions received from rubbing against the gravel and sand of the spawning beds, but partly as the result of fighting, sores develop on the bodies

of both males and females. These abraded areas and other woudns furnish points of attack by *Saprolegnia* and sooner or later the fish appear very repulsive. They are, of course, unfit for canning and are not used by the whites as food. The Indians, however, have not been so particular and often utilize them. It is also true that the west coast species of salmon and steel-head trout are infested with various species of Lernean crustaceans as parasites. These, however, are chiefly on the gills, but sometimes elsewhere. It is not known that they do any particular damage. It may be that some species of *Argulidæ* also attack the west coast salmon. The statement that these 'lousy' fish are found only in salt water is probably based on lack of full information."

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending May 23, 1908:

Cole, C. L., first lieut., M. C., ordered from Ft. Thomas, Ky., to Ft. Benjamin Harrison, Ind., for duty.

Lynch, Charles, major, M. C., granted leave of absence to June 30, 1908.

Ebert, R. G., major, M. C., arrived at San Francisco, from tour of Philippine service.

Ireland, M. W., major, M. C., detailed to represent the Medical Department of the Army at meeting of American Medical Association, at Chicago, June 2 to 5, 1908.

Dutcher, B. H., major, M. C., relieved from duty in Philippines Division in time to sail for United States about July 15; granted two months' leave of absence.

Suggs, Frank, contract surgeon, left Madison Barracks, New York, for his proper station, Ft. Niagara, N. Y.

George, W. R. S., contract surgeon, granted an extension of ten days to his leave of absence.

Slater, E. F., contract surgeon, arrived at Madison Barracks, New York, from leave of absence.

Anderson, E. A., contract surgeon, left Ft. Wingate, New Mexico, on leave of absence for two months.

Ames, J. R., dental surgeon, arrived at Jefferson Barracks, Missouri, for duty.

Waddell, R. W., dental surgeon, arrived at San Francisco, from tour of Philippine service, for two months' leave of absence.

Hammond, W. G., dental surgeon, left Ft. Wingate, N. M., for duty at Ft. Apache, Arizona.

Tuttle, A. D., contract surgeon, granted leave of absence for seven days.

Tignor, E. P., dental surgeon, ordered to maneuver camp, Pine Plains, N. Y., to arrive June 13, for temporary duty.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending May 23, 1908:

Farenholt, A., surgeon, detached from the *Independence* and ordered to the *Maryland*.

Kennedy, J. T., surgeon, detached from the Naval Recruiting Station, Dallas, Texas, and ordered to the *Independence*.

Shipp, E. M., surgeon, detached from the *Illinois* and ordered to the *Pennsylvania*.

Urie, J. F., surgeon, detached from the *Pennsylvania* and ordered to the *Illinois*.

Mayers, G. M., P. A. surgeon, ordered to the Navy Yard, Mare Island, Cal.

Shiffert, H. O., P. A. surgeon, ordered to the *Lancaster*.

Baker, M. W., P. A. surgeon, detached from the *Colorado* and ordered to the *Nebraska*.

Dunn, H. A., P. A. surgeon, detached from the *Nebraska* and ordered to the *Colorado*.

Cather, D. C., asst.-surgeon, detached from the *Lancaster* and ordered to the Naval Recruiting Station, Kansas City, Mo.

Garrison, H. A., asst.-surgeon, detached from the Naval Hospital, Philadelphia, June 20, and ordered to the Naval Station, Guam, L. I., sailing from San Francisco about July 5.

Moran, C. L., asst.-surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Recruiting Station, Dallas, Texas.

Baker, M. C., asst.-surgeon, detached from the Navy Yard, Mare Island, Cal., June 1, and ordered to the *Ohio*.

U. S. Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and noncommissioned officers of the Public Health and Marine-Hospital Service for the seven days ended May 20, 1908:

Carrington, P. M., surgeon, granted leave of absence for 5 days, from May 19, 1908, under Paragraph 189, Service Regulations.

Young, G. B., surgeon, detailed to represent the service at the meeting of the American Medical Association, Chicago, June 2-6, 1908.

Vogel, C. W., passed asst.-surgeon, relieved from special temporary duty at San Francisco and directed to proceed to San Juan and other quarantine stations in the Island of Porto Rico, and also to certain places in Venezuela, for special temporary duty.

Burkhalter, J. T., passed asst.-surgeon, granted leave of absence for one month, from June 3, 1908.

Warren, B. S., passed asst.-surgeon, granted leave of absence for two months, from June 5, 1908.

Ashford, F. A., asst.-surgeon, granted leave of absence for 4 days, from April 12, 1908, on account of sickness.

Frost, W. H., asst.-surgeon, granted leave of absence for 2 days, May 2 and 3, 1908, under Paragraph 210, Service Regulations.

Lanza, A. J., asst.-surgeon, relieved from duty on the revenue-cutter *Manning* and directed to proceed to Port Townsend, Washington, reporting to the commanding officer of the revenue-cutter *Rush* for duty.

Bowie, R. I., sanitary inspector, granted leave of absence for 30 days, from July 1, 1908, and extension of leave without pay for 14 days, from Aug. 1, 1908.

Mason, W. C., acting asst.-surgeon, granted leave of absence for 2 days, from May 26, 1908.

McLarty, A. A., acting asst.-surgeon, granted leave of absence for 14 days, from May 15, 1908.

Rosello, M. M., acting asst.-surgeon, granted leave of absence for 4 days, from April 25, 1908.

BOARDS CONVENED.

A board of medical officers was convened to meet in New Orleans for the purpose of making a physical eexamination of Passed Asst.-Surgeon T. D. Berry, in accordance with Paragraph 50 of the Service Regulations. Detail for the board: Surgeon J. H. White, chairman; Passed Asst.-Surgeon H. W. Wickes, Asst.-Surgeon C. M. Fauntleroy, recorder.

A board of medical officers was convened to meet in Chicago, May 22, 1908, for the purpose of examining applicants for the position of cadetship in the Revenue-Cutter Service. Detail for the board: Surgeon G. B. Young, chairman; Asst.-Surgeon C. E. Wood, recorder.

A board of medical officers was convened to meet in St. Louis, Mo., May 23, 1908, for the purpose of examining an applicant for the position of cadetship in the Revenue-Cutter Service. Detail for the board: Passed Asst.-Surgeon B. S. Warren, chairman; Acting Asst.-Surgeon H. C. Wakefield, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended May 22, 1908:

SMALLPOX—UNITED STATES.

Alabama: Mobile, May 9-15, 6 cases.
California: Los Angeles, April 25-May 2, 3 cases; San Diego and vicinity, May 1-8, 7 cases; San Francisco, April 25-May 2, 5 cases.
District of Columbia: Washington, May 2-9, 5 cases.
Illinois: Chicago, May 2-9, 4 cases; Danville, May 3-10, 2 cases; Jacksonville, May 2-9, 1 case; Springfield, April 30-May 7, 3 cases.
Indiana: Fort Wayne, May 2-9, 4 cases; Indianapolis, May 3-10, 8 cases; La Fayette, May 5-11, 2 cases.
Iowa: Albion, Jan. 1-31, 10 cases; Ottumwa, May 2-9, 5 cases.
Kansas: Kansas City, May 2-9, 5 cases; Topeka, 9 cases.
Kentucky: Covington, May 2-9, 1 case.
Louisiana: New Orleans, May 2-9, 5 cases, 3 cases imported.
Michigan: Grand Rapids: May 2-9, 1 case; Kalamazoo, 2 cases; Saginaw, 4 cases.
Missouri: St. Joseph, March 21-May 9, 195 cases, 1 death; St. Louis, May 2-9, 1 case, 1 death.
Nebraska: South Omaha, May 2-9, 2 cases.
North Carolina: Charlotte, May 1-8, 1 case.
Ohio: Cincinnati, May 1-8, 8 cases; Toledo, April 25-May 2, 3 cases.
Tennessee: Nashville, May 2-9, 1 case.
Texas: Galveston, May 1-8, 2 cases; San Antonio, May 2-9, 6 cases.
Washington: Spokane, April 25-May 2, 9 cases; Tacoma, May 2-9, 2 cases.
Wisconsin: La Crosse, April 25-May 9, 12 cases, 1 death.

SMALLPOX—INSULAR.

Philippine Islands: Manila, March 21-28, 7 cases, 3 deaths.

SMALLPOX—FOREIGN.

Austria: Trieste, April 18-25, 1 case.
Belgium: Ghent, April 18-25, 1 case, 1 death.
Brazil: Rio de Janeiro, March 30-April 12, 240 cases, 104 deaths.
China: Amoy, Feb. 15-April 4, present; Hongkong, March 14-28, 31 cases, 42 deaths; Shanghai, April 4-12, 1 case, 9 deaths.
Egypt: Cairo, April 8-22, 8 cases, 7 deaths.
France: Paris, April 18-25, 2 cases.
India: Bombay, April 7-14, 54 deaths; Calcutta, March 28-April 4, 35 deaths; Rangoon, March 30-April 4, 1 death.
Italy: General, April 16-30, 63 cases; Catania, April 23-30, 1 death.
Japan: Kobe, April 4-11, 6 cases, 3 deaths; Osaka, March 28-April 4, 145 cases, 126 deaths.
Mexico: Aguas Calientes, April 26-May 3, 2 deaths.
Russia: Odessa, April 23-30, 1 case, 1 death; St. Petersburg, April 4-18, 53 cases, 6 deaths.
Spain: Denia, April 11-25, 15 cases, 4 deaths; Valencia, April 12-26, 46 cases, 2 deaths.
Straits Settlements: Singapore, March 21-28, 1 death.
Transvaal: Pretoria, March 28-April 4, 1 death.
Turkey in Asia: Bagdad, March 28-April 11, 65 cases, 6 deaths; Constantinople, April 12-26, 7 deaths.

YELLOW FEVER.

Barbados: Bridgetown and vicinity, April 14, 1 case, 1 death.
Costa Rica: Punta Arenas, May 7, 1 case.
Cuba: Santiago, May 18, 1 case.

CHOLERA—INSULAR.

Philippine Islands: Las Pinas, March 21-28, present; Pangasinan Province, present.

CHOLERA.

Ceylon: Colombo, March 18-April 4, 1 death.
China: Hongkong, Nov. 24-28, 6 cases, 4 deaths.
India: Bombay, April 7-14, 1 death; Calcutta, March 28-April 4, 210 deaths; Madras, April 4-10, 3 deaths; Rangoon, March 28-April 4, 6 deaths.

PLAGUE.

Australia: Brisbane, Feb. 29-March 14, 3 cases, 1 death; Kempsey, May 2-9, 1 case.
Brazil: Rio de Janeiro, Mar 31-April 12, 1 case, 1 death.
China: Hongkong, March 14-28, 8 cases, 7 deaths.
India: Bombay, April 7-14, 393 deaths; Calcutta, March 28-April 4, 151 deaths; Rangoon, 32 deaths.
Straits Settlements: Singapore, March 21-28, 2 deaths.

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters; that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

The Administration of Water in Childhood.

Dr. Max Barbour, Philadelphia, in the *New York Medical Journal*, Feb. 8, 1908, calls attention to the fact that ordinarily not enough water is given to babies and young children. While a young child can not ask for water, and does not often know what it wants, according to Holt and Jacobi, it requires approximately to its weight, from six to eight times as much water as the adult. Hence, the physiologic reasons for giving children very diluted food, as large amounts of water are needed for the child's metabolism.

Barbour says that he has frequently allayed vomiting in children with no other medicament than the administration of a few teaspoonfuls of water, and he thinks a glass of water during the twenty-four hours is not too much for an infant several months old. Of course, this amount should vary according to the season and the condition of the child, the child naturally requiring more in hot weather and during any feverish process. He characterizes as pernicious the habit of offering a child the breast or food whenever it cries. What it really needs is water. It is often thirsty, not hungry.

He emphasizes the fact, often forgotten, that when there is diarrhea with watery stools, the child needs water, and many times plenty of water will prevent the development of serious symptoms.

If the urine is scanty and high colored, it should also quickly be noted and the child should receive more water. When the child cries when it urinates, due to concentrated, irritating urine; also when it is hoarse or has a cough, it should receive plenty of water, in the first instance to dilute the urine and in the second instance to render the mucous secretion more liquid.

Barbour believes that if babies received more water they would require less medicine.

Sulphur.

Sulphur is an element and is found as such in volcanic districts, and elsewhere in combination (sulphids and sulphates).

If it remains long in contact with the skin, or is rubbed into the skin either in a suspension or in an ointment, it is stimulant and later irritant to the skin, and may even produce an inflammation, a dermatitis. Its stimulant action is often utilized to increase the exfoliation of the epidermis. It is mildly antiseptic and is a parasiticide. It probably has little action, other than mechanical, in the stomach; i, e., at first, in the dry powde., it would be slightly irritant, but if the stomach contains food and liquid, it is practically inert. In the alkaline contents of the intestine a small amount is absorbed, but most of it is converted into sulphids and sulphates with the formation of hydrogen sulphid gas. This gas is readily taken up by the circulation, and is excreted by the lungs and skin, imparting its characteristic, disagreeable odor to the breath, and the emanations from the skin may tarnish silver articles worn by the patient. During its excretion by the skin sulphur is slightly stimulant, a fact which has caused it to be used internally in certain chronic skin diseases.

It has been thought that this hydrogen sulphid gas eliminated by the lungs would be antiseptic and inhibit the growth of germs in the lungs, such as the tubercle bacilli. Such a desirable action has not been proved.

It has also been asserted that its presence in the blood would tend to inhibit the development of boils, carbuncles and acne. Any success from the administration of sulphur in these conditions is probably due not to specific action of the sulphur, but to its action, perhaps, as a bowel antiseptic, preventing the absorption of toxins from the intestines. For such slight systemic action it is not necessary for the dose of sulphur to be large.

When sulphur is administered in considerable amounts, it increases peristalsis without causing pain, and by hastening the contents of the bowels toward the rectum causes the stools to be soft, and acts as a mild laxative. It is also probable that by its slight irritation it increases the secretion of the intestines.

It is excreted normally with the feces, but somewhat by the skin and by the lungs, and also appears in small amount in the urine and milk.

Sulphur is not now much used as a laxative, largely on account of the amount that it is necessary to take, and the disagreeableness of taking it, also because it imparts a sulphurous odor to the breath, and sometimes the odor of sulphur to the perspiration. However, when there are hemorrhoids or a fissure at the anus, it is valuable, as the feces are softened by it and at the same time it does not make large watery stools as do some other laxatives. In these same conditions a sulphur suppository may be used at night and the stool in the morning is generally soft. This is the pleasantest way of using sulphur for this purpose.

The older clinicians attribute an alterative action to sulphur and believe that it is of advantage in causing excretion of products of metabolism that might be retained in the body to the detriment of the patient. With such an object sulphur has been much used in chronic rheumatisms, muscular pains or localized myalgias, neuralgias and in gout. It has also been used in intestinal indigestions. For these purposes the dose may be small and repeated three times a day, or a larger dose once a day may be given for its combined alterative and laxative action. Although there has been a large psychical element in the advantages derived from the internal administration of sulphur, there seems to be no doubt that it does prevent sluggishness of the bowels, and, therefore, prevents the production of toxins which, being absorbed, may cause pains in various parts of the body. Many drugs act similarly and better, but sulphur should, perhaps, be used more frequently than it now is for disturbances which are due to intestinal fermentation.

Its use has been advised, on account of its germicidal action, in amebic dysentery and typhoid fever.

Sulphur is a specific in the treatment of scabies, and is also used in various other parasitic skin diseases, as tenia versicolor and sycosis. It also is used in acne and psoriasis, as it causes rapid exfoliation of the epidermis. In scabies it is often combined with the balsam of Peru, but many times balsam of Peru is used in its stead.

The official preparations of sulphur are:

SULPHUR SUBLIMATUM, sublime sulphur, or flowers of sulphur, or brimstone. This is a fine yellow powder, of sulphurous odor and a faintly acid taste, and is insoluble in water. This preparation of sulphur should not be used internally, as it may contain arsenic.

SULPHUR LOTUM, washed sulphur. This is prepared from the sublimed sulphur and is a fine yellow powder, but without odor or taste, and is also insoluble in water. This preparation is the best for internal use, and the laxative dose is 4 grams (60 grains).

SULPHUR PRECIPITATUM, milk of sulphur. This is also a fine, pale yellow powder, odorless and tasteless, and insoluble

in water. This form of sulphur is especially vauable for external use when it is advisable to incorporate sulphur into an ointment. If the milk of sulphur is used internally, the dose is the same as the washed sulphur, viz., 4 grams (60 grains).

PULVIS GLYCYRRHIZÆ COMPOSITUS, compound licorice powder. This much used laxative contains 8 per cent. of washed sulphur, 18 per cent. of senna, glycyrrhiza, oil of fennel and sugar. The dose of this as a laxative is enough, viz., a teaspoonful or more.

UNGUENTUM SULPHURIS. This official sulphur ointment contains 15 per cent. of washed sulphur in benzoinated lard. It is used in the treatment of scabies and other skin diseases, but should generally be diluted with lard or petroleum, as it may produce considerable irritation of the skin.

Sulphur may be administered as follows:

℞.	gm.		
Sulphuris loti		or	
Magnesii oxidi	āā 10		āā, ʒiiss

M. et fac konseal. 20.

Sig.: One wafer, three times a day, after meals.

Or:

℞.	gm.		
Sulphuris loti	15	or	ʒss

Fac chartulas 5.

Sig.: One powder at bedtime.

[This may be administered, according to the old-fashioned method, in syrup or molasses, if desired.]

For scabies:

℞.	gm.		
Unguenti sulphuris		or	
Petrolati	āā 25		āā, ℥i

M. et Sig.: Use externally, as directed.

Or:

℞.	gm.		
Balsami peruviani	20	or	3v
Unguenti sulphuris	80		ʒiiss

M. et Sig.: Use externally, as directed.

These preparations should be thoroughly rubbed into the affected parts of the body, and after an hour the patient should take a bath. This treatment should be repeated on several days, and clean underclothing put on after each bath. It is well to repeat this treatment once a week for two or three weeks.

Antiseptic Gargles and Mouth Washes.

This is a subject of constant interest. It is not only necessary to use proper gargles in infections of the throat, as diphtheria, follicular tonsillitis and scarlatina, but it is also necessary in all inflammations of the mouth and throat, and very necessary in all acute illnesses and fever conditions, be the cause what it may. It is also now recognized that many digestive disturbances, and perhaps serious blood diseases, may be caused or perpetuated by a foul condition of the teeth and gums. In other words, physicians prescribe more and more frequently alkaline, and more or less antiseptic solutions, or tablets or powders for solution, to promote cleanliness of the mouth and throat.

The proprietary preparations for these purposes are legion, and the price is in many instances out of all proportion to the cheap drugs used in the preparation of these powders or solutions. Still, in some instances bottles of these solutions, approximately containing a pint, are offered by some proprietary firms at a reasonable price. But the prices for which they must be sold over the prescription counter allow only a very small profit to the druggist handling them. Consequently, it seems only fair to the profession of pharmacy, and also more ethical, to order the preparations of the Pharmacopeia and National Formulary that contain practically the same ingredients as these proprietary mouth washes. In other words, the Liquor Antisepticus of the Pharmacopeia and the Liquor Antisepticus Alkalinus of the National Formulary represent preparations which, when diluted with one or two parts of warm water, make most perfect alkaline and mildly antiseptic mouth washes and gargles. However, while aiming to aid the profession of pharmacy, the physician finds that if he orders 200 c.c. or 6 ounces of one of these preparations, the patient is required by many druggists to pay as much as or more than that for which he could obtain a pint bottle of a proprietary preparation. The patient must pay an extortionate price, viz., from 50 to 65 cents, for less than half a pint of a solution the ingredients of which, per pint, costs about 10 cents. Allowing for the preparation, the bottle and the labeling, 25 cents for a bottle containing from six to eight ounces of one of these preparations would yield a handsome profit.

This is not written as a criticism, but as a regret that in the aim of the medical men to prescribe official preparations we find ourselves often defeated by the above condition.

As it has been shown (Wadsworth, *Journal of Infectious Diseases*, 1906, iii, 774), that a diluted alcohol is one of the best antiseptics for use in the mouth in infectious diseases, especially pneumonia, the following makes a cleansing solution for the mouth in acute diseases:

℞.	gm. or c.c.		
Sodii chloridi	2		ʒss
Sodii bicarbonatis	50		gr. x
Glycerini	15	or	fl℥ss
Olei gaultheriæ	10		gtt. iii
Alcoholis 100			fl℥iii
Aquæ destillatæ .....ad 200			ad fl℥vi

M. et Sig.: Dilute with an equal part of warm water and use as a mouth wash.

Dandruff and Incipient Baldness.

The following local treatment is quoted from the *Therapeutic Gazette* of June 15, 1907:

℞.	gm. or c.c.		
Resorcini	4		3i
Betanaphtholis	2		ʒss
Chlorali hydrati	8		ʒii
Tincturæ cantharidis	15	or	fl3iv
Tincturæ capsici			
Olei ricini .....āā	5		fl3i
Spiritus odorati 100			fl℥iv
Spiritus myrciæ .....ad 500			ad Oi

M. et Sig.: Rub into scalp daily.

Shake before using.

Society Proceedings

COMING MEETINGS.

AMERICAN MEDICAL ASSOCIATION, CHICAGO, JUNE 2-5.

American Academy of Medicine, Chicago, May 30-June 1.
American Association of Medical Examiners, Chicago, June 1-2.
American Gastro-Enterological Association, Chicago, June 1-2.
American Proctologic Society, Chicago, June 1.
American Urological Association, Chicago, June 1.
Nat. Confed. of State Med. Exam., etc., Boards, Chicago, June 1.
American Orthopedic Association, Chicago, June 4-6.
Massachusetts Medical Society, Boston, June 9-10.
American Climatological Association, Boston, June 9-11.
Maine Medical Association, Bangor, June 10-11.
Indiana State Medical Association, French Lick, June 18-19.
Medical Society of New Jersey, Cape May, June 18-20.
Medical Society of State of North Carolina, Winston, June 16-19.
Michigan State Medical Society, Manistee, June 24-25.
State Medical Society of Wisconsin, Milwaukee, June 24-26.

ASSOCIATION OF AMERICAN PHYSICIANS.

Twenty-third Annual Meeting, held in Washington, D. C., May 12-13, 1908.

The President, DR. JAMES TYSON, Philadelphia, in the Chair.

Officers Elected.

The association elected the following officers for the ensuing year: President, Victor C. Vaughan, Ann Arbor; vice-president, Henry Hun, Albany, N. Y.; secretary, George M. Kober, Washington, D. C.; recorder, S. Solis-Cohen, Philadelphia;

treasurer, J. P. Crozer Griffith, Philadelphia; councilor, S. J. Meltzer, New York; representative on the executive committee of Congress of American Physicians and Surgeons, F. H. Williams; alternate, W. S. Thayer, Baltimore.

Résumé of History of the Association.

DR. JAMES TYSON, Philadelphia, in the annual presidential address, recalled the first meeting of the association in the old Armory building, and other early meetings held in the Surgeon-General's Laboratory. In Washington twenty-three years ago there had been delivered to the association by the profession the talents which it was expected it would return with interest. The first president, Dr. Delafield, then said: "We all know why we are assembled here to-day; because we want an association in which there will be no politics; in which no one will care who are the officers; in which no one will care from what part of the country a man comes, but will simply ask if he has done good work and if he will do more; we want members who will contribute something real and of value to a discriminating audience; we want a society in which we can learn something." How, asked Dr. Tyson, had these talents been used? For answer he asked the members to look at the twenty-two volumes of "Transactions of the Association" which he had arranged on the desk, and which included, he said, 10,456 pages and 746 titles. They included much of the best work of the past twenty-two years in the laboratories and clinics of the United States and Canada. Death had dealt gently with the association during the past year, only two of the members having died, Dr. Folsom and Dr. Carroll, to the memories of both of whom he paid tribute.

Non-Fatal Coma in Diabetes.

DR. C. N. B. CAMAC, New York, reported a case of diabetes in an adult, observed for three and one-half months, after which there was onset of coma with marked urinary changes; coma (not Kussmaul type) fully developed. Alkaline treatment was instituted; small doses only were required to alkalize the urine. Duration of symptoms was one week. There was recovery from the coma; urine-findings were the same as before coma. Hemiplegia (without coma) occurred four months after; death. The quantity of urine remained about the same as before coma; diacetic acid lasted three days and then disappeared; when patient began to come out of coma there was very definite increase of ammonia. The blood-pressure chart never reached 200 during the early stage, but at final stage went definitely up and remained up during the time of hemiplegia. It is rare to find a case of non-fatal diabetic coma followed later by death and autopsy. In view of the subdivisions of acid intoxication Dr. Camac considered the findings in this case of interest. During the comatose condition the patient never had more than a trace of albumin.

DISCUSSION.

DR. S. SOLIS-COHEN, Philadelphia, reported similar experiences. One patient, a woman, had had diabetes several years before consulting him. She died twenty years later after having entirely recovered from diabetic coma. Sugar disappeared from the urine five or six years before her death, being replaced by albumin. A second patient was one of two sisters who were under his care for diabetes. She had had symptoms of diabetes for a short time before coming under his care; sugar disappeared from the urine under treatment. She became careless about diet, diabetic coma developed and she died. In the other sister sugar never disappeared from the urine. Both women were gouty.

DR. JAMES EWING, New York, thinks that there might be some question as to whether the doctor was dealing with a case of true diabetes; that if we could conceive of coma in diabetes robbed of the acid element it would be such a case.

DR. THEODORE JANEWAY, New York, took issue with Dr. Ewing; the patient had been under his care for a while and her case impressed him as one in which it was somewhat difficult to judge whether he was dealing with coma due to diabetes—which she undoubtedly had—or coma due to cerebral disease. She had slight hemiplegia when he first saw her and she had a well-marked chronic nephritis.

DR. C. N. B. CAMAC, New York, said in regard to nephritis, that that question was carefully weighed and asked if we are in a position to differentiate uremia in the course of diabetes or acidosis from the forms that occur in other conditions. He does not see that it would help any to say that this was a case of uremic coma. We are without any definite evidence with which to differentiate.

The Auriculoventricular Bundle, with Report of a Case and Presentation of Specimens Showing Acute Ulcer on the Interventricular Septum.

DR. WALTER B. JAMES, New York, presented a specimen showing an ulcer on the interventricular septum completely cutting across the auriculoventricular bundle, with complete dissociation of auricles and ventricles. The patient, a little over 60, had had chronic mitral disease for several years and came to him with malignant endocarditis. There was evident complete dissociation between auricles and ventricles. There was at no time the Stokes-Adams syndrome; there was absolute heart block without this syndrome. He suggested a more definite definition and limitation of the term and discussed a number of cases simulating and often wrongly diagnosed as heart block and suggested possible auriculoventricular delay as early evidence of acute myocarditis. He thinks that there are at least three forms of Stokes-Adams syndrome depending on entirely different physiologic origins.

Heart Sounds Heard in Early Diastole.

DR. W. S. THAYER, Baltimore, said that having noticed this sound in dogs, in one of which a slight tic at the beginning of the diastole could even be seen, visible whenever the third sound could be heard, it was thought of interest to go back over human patients and study this condition. This was done over four months, taking the cases that came to the consulting room and over thirty normal individuals were found in whom the early diastolic sound was audible. It is a very slight sound distinctly audible, associated with slight shock to be felt and in some cases was visible; more marked in the recumbent position and with the patient on the left side. It is impossible to measure accurately the relation of the sound to the other sounds, but it was studied in relation to the normal cardiogram and it was observed in all that the early diastolic elevation was distinctly exaggerated. The plethysmogram showed that the ventricular diastole was a rapid and not a gradual process. The sound was similar to that in mitral stenosis. The hypothesis that seemed best was that with the first onrush of blood through the mitral and tricuspid valves the valve is brought into such contraction as to cause sudden tension of the valve. He concluded that it is not uncommon to find in the normal heart a slight sound occurring in early diastole shortly after the second sound but too late to be due to closure of the valve. It occurs between 0.1 and 0.2 second after the second sound.

DISCUSSION.

DR. A. A. ESHNER, Philadelphia, said it has always seemed to him that the physical condition present in the passage of the blood from the auricle to the ventricle is such as to be particularly calculated to develop a sound during this period; on one side a cavity of considerable caliber and on the other a cavity still larger, separated by an orifice.

DR. W. S. THAYER said that one of the conditions in which an analogous sound is heard is that of aortic insufficiency; at the apex of the heart one hears the dull first sound, then a second sound without diastolic murmur, and then a third one.

Preliminary Report on the Results of Ligation of the Coronary Arteries in Dogs.

DRS. JOSEPH L. MILLER and A. S. MATTHEWS, Chicago, referred to the clinical bearing of the subject and previous experimental work on dogs which dated back many years, but concerning which the literature had not been extensive, one of the best pieces of work on the subject being that of Porter of America some years ago. More recent work is that of Spalteholz, who attempted to prove that the coronary arteries are end arteries. After ligating the descending branch of the left coronary and killing the dogs at the end of from two to four

weeks it had been found that the area of necrosis in the ventricle was very small compared to the area supplied by the ligated vessel, the conclusion being drawn that the arteries were not end arteries. It had been attempted also to produce lesions similar to those that occurred in man in an attack of angina pectoris. The authors attempted to prevent stoppage of the heart by means of vasodilators of the digitalis group. It was found that one animal suffered intense dyspnea and after death there was enormous dilatation of the left ventricle; in the other animals the results were similar. Nitroglycerin, adrenalin and morphin were also employed. Nitroglycerin failed to do any particular good.

DISCUSSION.

DR. W. H. WELCH, Baltimore, asked if the investigations shed any light on the question of whether the intramuscular branches are terminal. In closure of the intramuscular branches he thought necrosis practically constant.

DR. S. SOLIS-COHEN, Philadelphia, thinks that Dr. Miller properly exercised a judicious reserve in employing the results of these experiments in the treatment of angina for it is by no means sure that the results found postmortem are the same as those when the disease is first manifested. A great difference between these experiments and the paroxysm of angina is that here a permanent disturbance of the circulation is established, whereas in the paroxysm of angina there is a temporary and not a permanent disturbance. Results with nitroglycerin could not of course be expected when there was permanent occlusion of the artery. He thinks that nothing is better established than that the nitrates exert a beneficial effect in arresting the paroxysms of angina.

DR. R. H. BABCOCK, Chicago, suggested that perhaps the state of the blood pressure would have much to do with the question of whether nitrates would relieve or not.

DR. ALEXANDER MCPHEDRAN, Toronto, reported the case of a patient with blood pressure of 270 in whom large doses of nitroglycerin produced slight toxic symptoms without reducing blood pressure more than about 20 mm., and without giving any relief.

DR. JOSEPH L. MILLER, Chicago, said that it might be of interest to know that the left ventricle stopped first in all the animals. Referring to Dr. Solis-Cohen's remarks, he said that the fact that in angina pectoris we are dealing with a transitory attack does not necessarily mean that we are not dealing with permanent occlusion. Most of the work was done before the use of the instruments for recording blood pressure. What actually occurred was an incomplete systole; what was needed was to make the heart muscle work better rather than to relieve pressure.

Lesions of Experimental Nephritis.

DR. H. A. CHRISTIAN, Boston, demonstrated three lesions produced in experimental nephritis in animals, a glomeruli lesion consisting in the appearance of fine droplets; they occurred in the walls of the capillary tufts and were well shown in the photographs which he passed around. This lesion occurred in eleven of thirteen successive animals which had received uranium nitrate; two failed to show the lesion. Of twelve other animals, four were given potassium bichromate; two of them showed none of these granules; two showed slight lesions. Others received potassium bichromate and mercuric chlorid; they did not show the lesion. Another group received trypan red; two showed lesions in a very mild degree. So far as the urine was concerned, it was apparently as toxic as those that did show the lesions. Another lesion somewhat similar in structure occurred within the tubular epithelium—small hyaline droplets; this occurred in a considerable number of the animals. A third lesion was a thickening of the hyaline layer; the tubule lined by a hyaline material, loss of nuclei and granules.

Review of Opsonotherapy.

DR. EDWIN R. BALDWIN, Saranac Lake, N. Y., said that the original conception of opsonic activity as due to a distinct substance with independent functions has been modified by recent studies. Normal sera has been shown independently by Dean and Cowie and Chapin to exhibit a close parallel between opsonic functions and the reactions of normal amboceptor and complement to heat and absorption by bacteria. If not identical, they are indistinguishable except in function. The phenomenon of phagocytosis is a physiochemic one. Immune opsonic activity is also closely related to immune amboceptors of bacteriolytic or cytolytic sera. Lack of correspondence in some particulars is not necessary proof that opsonins form a distinct substance. Opsonic properties are also allied to agglutinative powers of sera, but are weakened more by loss of complement. Weight of evidence is in favor of opsonins as amboceptor-complement in Nature. Opsonic function as a measure of specific resistance is subject to limitations, but applicable to mild infections. He referred to the recognition of specific opsonins in diagnosis of tuberculosis as practiced by C. P. Ritchie. Studies on the technic for the estimation of the index during the past year has not increased confidence in its accuracy. Work at the Saranac Laboratory with inoculations of immune-serum opsonized tubercle bacilli has been continued and the results recorded last year on rabbits confirmed. Protective inoculations of weak-virulent opsonized bacilli in guinea-pigs were considered.

Classification of Acidoses.

DR. JAMES EWING, New York, said that acid intoxication, or acidosis, occurs in diabetes, starvation, phosphorus poison, toxemia of pregnancy, cyclic vomiting of children, delayed chloroform poisoning and many other diseases, in each of which the abstraction of fixed alkalies or the direct toxic action of salts of the acid compounds are supposed to contribute to or dominate the symptoms. Study of pathologic anatomy and the chemistry of these diseases shows that there are two distinct classes of acidoses following two experimental prototypes: (1) Type:—Hydrochloric acid poisoning. Clinical forms:—Diabetes, starvation. Chemistry:—Acetone compounds. Pathologic anatomy:—No lesions. (2) Type:—Extirpation of the liver, or Eck fistula. Clinical forms:—Phosphorus poisoning, toxemia of pregnancy, cyclic vomiting, chloroform poisoning. Chemistry:—Lactic acid prominent; ammonia in excess of any acetone compounds present. Pathologic anatomy:—Extensive fatty degeneration. He reviewed evidence showing that these two types of acidosis are antagonistic in symptoms, origin and pathogenesis, although combined forms exist. The urinary ammonia is accepted as the measure of acidosis, but there is reason to believe that its significance is different in the two conditions.

DISCUSSION.

DR. L. F. BARKER, Baltimore, asked if Dr. Ewing had observed any case in which there was high organic acidity of the urine without acetone bodies or lactic acid. He said that it is conceivable that further analysis might lead to a greater differentiation in the acidoses.

DR. J. P. C. GRIFFITH, Philadelphia, reported two years ago two fatal cases of this kind. He called attention to the fact that French observers have described an acetonemic vomiting, but he has not confirmed this.

DR. D. L. EDSALL, Philadelphia, agreed that there are at least two types of acidosis. He thinks it hardly possible, however, to attempt as yet to indicate that one of these types is associated directly with lactic acid or any other particular acid. In the recurrent vomiting of children he thinks that we can say nothing more definite than that an acid intoxication is associated with it as part of the general disturbance. Sometimes the correction of the acid intoxication has no effect on the condition; in others it entirely overcomes it.

DR. S. SOLIS-COHEN, Philadelphia, asked what basis there is for estimating the amount or degree of acid or alkaline intoxication by the urine alone. He thinks that there might just as easily be an acid intoxication resulting from excessive neutralization of alkali as an original acid or alkaline intoxication.

DR. JAMES EWING, New York, in reply to Dr. Barker's inquiry, said that he had not been able to find such a case type as he referred to in which acids are present without the existence of acetone compounds. He places considerable im-

portance on the presence of lactic acid. In eclampsia there are cases in which the ammonia is high, lactic acid moderate, and acetone compounds absent. He agreed with Dr. Griffith as to acetone vomiting. He also agreed with Dr. Edsall as to the uncertainty of the progress made in the work, but thinks the pathologic work has not thrown much light on the subject and that in the minds of physiologic chemists there is also much doubt. The clinical and pathologic indications are so clear, however, that he considers the classification justified. In reply to Dr. Solis-Cohen, he stated that the degree of intoxication is measured by the amount of ammonia in the urine; by the amount of ammonia taken to neutralize the acids—so that it must be admitted that it is an unreliable method.

Experiments with Ash-Free Diet.

DRS. ELLIOTT P. JOSLIN and HARRY W. GOODALL, Boston, reported that two healthy men were fed on Taylor's ash-free diet (whites of 18 eggs, 200 gm. crystallized sugar, 120 gm. olive oil—freed from salts) until the daily excretion of chlorin was less than 0.3 gm. No symptoms of acid intoxication appeared, and at no time was acetone detected in the breath or urine. Marked loss of weight occurred, which was regained in the first experiment within four days after a return to an ordinary diet. In the second experiment the weight was nearly all recovered in three days, with the individual remaining on the ash-free diet, plus 12 gm. of salt daily. The assimilation of food was excellent. Marked diuresis—4,090 c.c. urine—occurred in the first case four days after a return to a regular diet. A third observation was made on a patient with diabetes with a minus carbohydrate balance of over 50 gm. The chlorin in the urine gradually fell to less than 0.3 gm. in twenty-four hours, but the change in acidosis was insignificant, and the condition of the patient was better than for some days. They concluded that the withdrawal of salts from the body does cause removal of the accessory salts which are present therein; but they give no support to the idea of the acetone form of acid intoxication being caused by the withdrawal of salts, and clinical experience did not support that opinion.

DISCUSSION.

DR. D. L. EDSALL, Philadelphia, stated his conviction that Dr. Taylor's intentions concerning his experiment had been misunderstood. Dr. Edsall thinks that Dr. Taylor did not mean to have it considered as having any bearing on the diabetic condition; but considered it as indicative merely of the fact that there are at least two types of acidosis, due to two different causes.

DR. JAMES EWING, New York, has drawn the same conclusions from Dr. Taylor's observation that Dr. Joslin has. He thinks it does have a distinct bearing on the acidosis of diabetes, and that he has thrown new light on the subject by the withdrawal of alkalies from the food. He asked Dr. Joslin to go more into detail as to symptoms.

DR. E. P. JOSLIN, Boston said that the symptoms were not striking; there was considerable nausea in one case. As soon as the salt was given the gastric symptoms disappeared, but the patient knew that as soon as he received the salt the experiment would be at an end in three days, which may have had some bearing. He agreed with Dr. Ewing that Dr. Taylor meant the experiment to further this theory, but that is not the point of the matter. Dr. Taylor inaugurated a new form of diet that has led to interesting results and in that has contributed a great deal to medicine.

Parathyroids and Calcium Metabolism—Nature of Tetany.

DRS. W. P. MACCALLUM and CARL VOEGTLIN, Baltimore, read this paper, which was published in the *Bulletin of Johns Hopkins Hospital*, March, and abstracted in THE JOURNAL, May 9, 1908, p. 1561.

DISCUSSION.

DR. JOHN H. MUSSER, Philadelphia, said the case referred to by Dr. MacCallum was one of adenocarcinoma involving the thyroid and lymphatic glands and other structures of the neck, and operation was required in order to relieve strangulation. The parathyroids were removed, and five days after operation tetany set in and pursued a course very like that which Dr. MacCallum found in the experimental cases. The patient was given large doses of calcium lactate and the symptoms were relieved; they were compelled to give morphia for a time also. The calcium was withdrawn, and at the end of forty-eight hours symptoms returned, when the calcium was again administered with relief.

DR. S. J. MELTZER, New York, referred to a case of tetany following operation in which the symptoms were not so striking, but in which calcium lactate was given. In a day or two all the symptoms subsided. It was then omitted, and in two days the symptoms returned, when on administration of the drug again the symptoms disappeared. Calcium is in some way capable of controlling the condition. He called attention to the fact that with magnesium we can cause paralysis, and then by the administration of calcium the animal will in a short time get up and walk around. It is one of the four substances that keep up the equilibrium of the inorganic metabolism.

DR. D. L. EDSALL, Philadelphia, said in myasthenia gravis there is often considerable excess of calcium in the urine; he has also observed it in other conditions, such as acromegaly. Because of these disturbances calcium was given with improvement; whether due to the calcium or not it is not sure.

DR. W. G. MACCALLUM, Baltimore, said they have also observed that the administration of calcium cuts short the tetany and it reappears after a short time and has to be recombated by other doses, but the effect of the calcium in stopping the condition is very definite. He thinks that there may be some relation between the condition and acidosis because of increase in the ammonia content in the blood.

Paroxysmal Syndrome, Probably Allied to Recurrent Vomiting, with a Study of Nitrogen Metabolism.

DRS. THEODORE JANEWAY and H. O. MOSENTHAL, New York, reported the case of a school girl of 16, with no neurotic inheritance, who had been subject to recurring attacks of a peculiar nature since infancy. These attacks formerly came at intervals of from one to four months, but for a year increased to one a week for three months with absolute periodicity. Description of previous attacks tallied absolutely with those observed. Attacks began with epigastric discomfort, increasing to real pain in from four to six hours, and severe abdominal pain with pain in shoulders, hips, etc., in from eight to twelve hours. Loss of appetite and salivation were present from onset. In from six to twelve hours temperature began to rise and pulse to become rapid, reaching their maximum in about four hours. As much as 104 F. and 140 pulse had been noticed. Nausea, retching and usually vomiting once or twice occurred at height of attack. Tongue was thickly coated and breath heavy, but not sweet. Abdomen was rigid and tender, most to right of umbilicus. The whole febrile period was from eighteen to twenty-four hours, and, as a rule, in less than thirty-six hours the girl felt well and ravenously hungry. Marked polymorphonuclear leucocytosis accompanied each paroxysm observed with subsequent leukopenia for a few days. Weight was rapidly regained after attacks. Saliva was always acid. Vomitus contained abundant hydrochloric acid. Stomach contents between attacks showed somewhat excessive hydrochloric acid. Urine usually showed a trace of acetone, unrelated to the attacks; otherwise nothing. Metabolism study on a purin free diet showed little deviation from normal, but uric acid was markedly decreased and ammonia somewhat increased with two attacks. Purgation, lavage of stomach, diet, all were without influence on attacks. Marked decrease in number and severity of attacks was noticed after a period of observation with use of alkalies, but the severity was renewed later. The condition seemed most probably a toxemia allied to the recurent vomiting of children.

DR. E. P. JOSLIN, Boston, had a complete analogue of this case under his care within the last six weeks; a servant, who had had these attacks for some years, was operated on for kidney trouble, which did not stop the attacks. She had fever, pain and leucocytosis of 18,000; she is still under observation.

DR. D. L. EDSALL, Philadelphia, had under observation a

patient of this kind, a trained nurse, who has had attacks similar to these for the past ten years, with increased severity. He eliminated fats from her diet, with the effect of temporarily at least stopping the attacks.

DR. THEODORE JANEWAY, New York, stated that he understood from Dr. Edsall that his patient had had an exploratory laparotomy, and he thought that an important point, as the occurrence of these attacks with marked leucocytosis and abdominal tenderness in the hands of many surgeons would lead to laparotomy.

Recurrent Syndrome of Heat Exposure.

DR. D. L. EDSALL, Philadelphia, reported some cases having a type of peculiar disturbance, consisting almost entirely of severe cramps affecting the extremities chiefly and also the abdomen after being subjected to excessive heat; some to intense atmospheric heat; others to artificial heat, as firemen and iron workers. Several were firemen of stationary engines. He found that the condition is common among firemen and others exposed to intense degrees of heat. In the Navy it is a common trouble among the recruits in the firing room. Deaths have occurred within an hour or two hours after the onset of the symptoms. He thinks from observations made on the blood pressure and examinations of the urine that the condition is probably toxic. It may be due to direct nervous irritation from intense heat or to some vascular change. He referred to one case in which the man had intense left-sided headache and pain in the left arm, who had been subjected to intense heat on the left side, and with change of occupation his symptoms disappeared, only to return again when he took up the same occupation. He thinks this subject of heat is of greater interest than has ordinarily been supposed.

(*To be continued.*)

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Annual Meeting, held at Natchez, April 14, 1908.
(*Continued from page 1725.*)

Preparatory and After-Treatment of Abdominal Section, with Report of Cases.

DR. H. R. SHANDS, Jackson, read a paper on this subject, which was discussed as follows:

DR. B. BURNES, Memphis, said that one error altogether too common, even in hospitals, is the absence of sterilizers for utensils. All operating rooms should be provided with these devices.

DR. J. CRISLER, Jackson, declared that physicians themselves should superintend the boiling of water for sterilizing purposes and personally see that no possible danger of contact with foreign matter attends its preparation.

DR. R. L. JOHNSON, Yazoo City, said that the least done to disturb the comfort of the patient the better. If he finds the vital organs normal he does not carry the patient through a prolonged and anxious series of preliminaries in dieting, etc. Such a process tends to render the patient's anxiety all the more acute.

DR. J. S. ULLMAN, Natchez, said that in operations for gallstones he has found the use of the stomach tube an excellent method of preliminary preparation. The use of salol for several days prior to the operation has been found advantageous in some cases. Drainage has worked wonders in surgery, but we should always remember the danger of hernia from a wound that has been left open for drainage. The peritoneum is able to care for a vast amount of septic material, and one will often find it useful to remember: "When in doubt (as to the advisabilityof drainage), don't drain."

Puerperal Eclampsia; Causes and Treatment.

DR. W. R. POPE, Ethel, read this paper, which was discussed at length as follows:

DR. B. F. TURNER, Memphis, said that the literature of eclampsia is singularly limited. The practitioner is thrown largely on his own reseources, and there is no condition which taxes more severely the resources of the obstetrician.

DR. H. CHRISTMAS, Tchoula, said that if the pulse of the patient can be reduced to 75 or 80 by veratrum no further convulsions are likely to follow.

DR. M. J. ALEXANDER, Tunica, stated that his experience has been satisfactory with veratrum in doses of 20 drops repeated as often as three times at intervals of an hour. He has not seen any depressing effects resulting from its use.

DR. DANSLER, Jones, has invariably used veratrum in cases of this character, giving 10 drops hypodermatically until the pulse is reduced. He has often repeated the dose at intervals of thirty minutes without any disturbing effects.

DR. ADAMS, Shaw, has given as much as a dram at a dose without bad results.

DR. E. F. TURNER, Leland, said that in his first case of eclampsia he resorted to the old specific of bleeding with good results, and he sometimes makes use of it now. He never got much satisfaction from the use of chloral or potassium bromid. Since using veratrum he has had good results.

DR. THOMAS B. HOLLOMAN, Ittabena, has only treated two cases of eclampsia. In one case, the patient had several convulsions, and he used veratrum, chloral and chloroform.

DR. ROWAN has never used veratrum. He does not regard it as any better than a number of other agencies. He believes that chloroform and morphin are the ideal drugs in emergencies.

DR. WEINSTER, Nettleton, said that puerperal eclampsia is a preventable disease and should be so classified. A physician who has been retained in cases of expected labor has no excuse for this condition arising. If he watches the secretions of kidneys and liver and applies remedial agents every woman would be saved from this trying ordeal.

DR. A. G. PAYNE, Greenville, advocated the use of veratrum in this condition. He has given as much as 20 drops hypodermatically, repeating with 10 drops at intervals, and has never seen a woman have a convulsion when the pulse was under 60. When necessary, croton oil to open the bowels quickly may be administered.

DR. E. ROBERTSON, Sunflower, said that he also regards eclampsia as a preventable disease if the physician is given time, but a country doctor in nine out of ten cases has not been retained, and the first he knows of the case is when he is called in a hurry to attend the woman. Dr. Robertson has used veratrum and chloroform and reduced the pulse as low as 54, and yet has seen continued convulsions.

DR. M. C. ELLIS, Senatobia, said that the condition is brought about by constipation and improper circulation. In his opinion the best remedy is the old-fashioned one of bleeding the patient.

DR. BALLING, Comanche, has never seen a patient die between the interlude of convulsions and eclampsia. He is a believer in veratrum.

DR. A. C. PAUL, Norwood, stated that as far back as 1877 the value of veratrum in puerperal eclampsia was discussed in this association.

Conservation in the Management of the Third Stage of Labor.

DR. J. M. GUTHRIE, Quitman, read a paper on this subject, which was discussed as follows:

DR. G. H. MCNEILL, Newton, said that he is a great believer in the use of forceps. He knows of no serious results following the early expulsion of the placenta.

DR. ROSA WISS, Meridian, said that after the placenta has been delivered if the physician will have the nurse place her hand on the uterus, pressing it gently for a time, the pain will be greatly diminished.

DR. S. E. EASON, New Albany, said that the main thing in removing the placenta is to diminish the hemorrhage.

The Proper Management of Patients During and After Parturition to Prevent Pelvic Inflammation.

DR. A. C. KENNEDY, Magee, read this paper, which was discussed by Drs. Martin and Donald.

DR. E. H. MARTIN, Hot Springs, Ark., endorsed Dr. Kennedy's methods in managing these cases. He said that it is agreed that there is no harm in the forceps when properly

used; then why, he asked, should there be delay in the delivery when it may be hastened by the use of the forceps?

DR. J. D. DONALD, Hattiesburg, said that in preparing for the operation he always used two tablets of bichlorid of mercury in a quart of hot water. He carries his own soap and brush in order that there may be no possible septic germs.

Prophylactic Treatment of Pregnancy.

DR. T. B. HOLLOMAN, Ittabena, read this paper, which was discussed as follows:

DR. B. F. HOLDER, Memphis, Tenn., called attention to the fact that a little fissure on the nipple due to carelessness may in after years develop into a cancer.

DR. E. J. JOHNSON, Yazoo City, recalled a case in which pregnancy was complicated with fibroid tumor and in which Cesarean section had to be performed.

An Unusual Case of Postpartum Hemorrhage.

DR. F. B. LINDER, Oxford, reported this case, which was discussed by Drs. Sutherland and Butler.

DR. H. L. SUTHERLAND, Rosedale, said that if after the termination of labor there is a good contraction we are apt to think that the danger is over. In the case in question, he thinks that the contraction was not complete. After the termination of labor he advises giving from 25 to 30 grains of quinin sulphate, and if this does not have the desired effect from 15 to 20 drops of ergot.

DR. J. T. BUTLER, Liberty, said that since he began to use strychnin in advance of labor he has not had a single case of postpartum hemorrhage.

The Home Treatment of Tuberculosis.

DR. JOHN B. ELLIOTT, New Orleans, laid stress on the physical and financial unpreparedness of the large majority of patients going to another climate for this condition. He maintains that in a majority of cases treated at home, when taught how to live hygienically—how to eat, sleep and rest—far more good is done when they are banished from home, friends and every interest in life. He encloses a porch with mosquito wire and requires his patients to spend the entire time in bed on this porch. When possible, awnings within the wire protect the patients from rain. He submitted a dietary for forced feeding. He does not allow his patients to take exercise until after the afternoon temperature has remained at 99 F. for at least one week; then a rolling chair should be used for one week, gradually giving way to moderate exercise. In some cases he has seen benefit from the use of tuberculin in small doses, as has been recommended by Trudeau and Brown. Tuberculin should not be used until there has been a marked arrest in the tuberculous process. He is not in favor of the use of cod-liver oil, creosote and the fat emulsions, believing that the same results may be obtained by the use of rare meats, eggs and milk. Every general practitioner is, or should be, a teacher as well as a treater of his patients, and on the subject of tuberculosis especially should there be a thorough understanding between the physician and his patient.

DISCUSSION.

DR. E. F. HOWARD, Vicksburg, said that in his opinion too much stress can not be laid on the value of eggs and milk, and that excellent results can be obtained at the patient's home by open-air arrangements which give perfect ventilation. Dr. Howard reported two cases.

DR. H. L. SUTHERLAND thinks it a great mistake for a patient to be allowed to incur the sacrifice of changing climate unless he is plentifully supplied with money. If his means are limited to the bare cost of transportation he certainly can not profit by the change, for exposure and hardships are certain to follow.

DR. J. M. ALFORD, Ellisville, said that the profession recognizes that tuberculosis is a curable disease. In his practice fully 50 per cent. of the fatalities are in the negro race. What to do with the tuberculous negro is a problem which confronts the southern practitioner. He is a constant menace, a source of infection, and he can not afford to seek another climate.

DR. J. W. GRAY, Clarksdale, has been able to accomplish much with his negro patients afflicted with tuberculosis by having them sleep with their heads in the open air, on a board extending out of the window, and eating raw eggs.

DR. MAX HENNING, Memphis, thinks that physicians should emphasize the importance of the sputum cup in infected homes.

DR. J. WALDAUER, Vicksburg, has observed that unless the patient is deeply impressed with the idea that he will make his own case worse by the indiscriminate distribution of sputum, he is indifferent to the interests of others.

DR. MCELROY, Memphis, said that whatever will contribute to the nutrition of the patient, if persisted in, will result ultimately in a cure.

DR. STEVENS, Hattiesburg, said that the duty of the physician does not end with writing a prescription for the patient. He must assume the management of the patient, overcome his resistance and advise him on every step. Drugs are of little avail.

DR. J. B. ELLIOTT said that it is impossible to overestimate the importance of absolute obedience to instructions in the matters of diet and ventilation.

Radioactive Baths in Treatment of Malaria.

DR. E. H. MARTIN, Hot Springs, Ark., read this paper, which was discussed as follows:

DR. H. L. SUTHERLAND said that Dr. Martin has done more for Hot Springs than any other man who ever lived there. They ought to erect a monument to him, and ought not to wait until he is dead to do it. Though Dr. Sutherland has seen excellent results from the Hot Springs treatment of malaria, still he regards quinin as the great specific. It must be admitted that there are many cases that quinin fails to reach, and in such cases Hot Springs is invariably beneficial.

DR. FRANK JONES, Memphis, said that in his opinion other conditions at Hot Springs beside the waters contribute to the excellent results.

DR. E. F. HOWARD said that whether the waters of Hot Springs actually accomplish cures in malaria or not, it is certain that they contribute much toward building up the patient's system.

DR. MARTIN, in closing the discussion, said that in all cases which he has observed, in which the malady had been determined as malaria, the results had been beneficial. He has made a careful study of many patients and is prepared to uphold the Hot Springs treatment as a specific.

Influenza.

DR. L. L. MINOR, of Hollywood, read this paper, which was discussed as follows:

DR. H. L. SUTHERLAND laid great stress on the difference between grip and ordinary colds. In 1900 grip swept over the delta like a devastating plague. There were hundreds of fatalities and spinal meningitis often accompanied the disease.

DR. J. WALDAUER regards influenza as one of the most fatal diseases with which practitioners come in contact. He knows of no other disease which has so many sequences and thinks that all cases of grip should be isolated and the apartments disinfected.

DR. J. B. ELLIOTT, New Orleans believes quinin to be the great specific for grip; it is fatal to the germs. He has used it successfully in his practice.

DR. J. D. DONALD, Hattiesburg, has observed that the nervous symptoms accompanying grip are out of all proportion to other symptoms.

DR. MCNEILL, Tchula, has used sodium salicylate and Dover's powders successfully. He has practically discontinued the use of quinin and invariably excludes it in cases of children suffering with grip.

Neuritis.

DR. M. J. ALEXANDER, Tunica, read this paper, which was discussed by Drs. Hummel and Sutherland.

DR. HUMMEL, New Orleans, described the various phases and symptoms of neuritis. He said that he has found absolute rest in bed, with the free use of electricity, the most beneficial treatment of the commoner forms of neuritis.

DR. SUTHERLAND gave the history of several cases which he has treated successfully.

Prophylaxis and Treatment of Malaria.

DR. A. G. PAYNE, Greenville, read a paper on this subject, which was discussed as follows:

DR. J. C. HALL, Anguilla, said that undoubtedly science has discovered and identified the malarial parasite, and it is equally true that this parasite is transmitted by the mosquito, but there is still the question as to where the mosquito obtains the parasite. There has been much speculation in this direction, and the subject calls for still greater research.

DR. J. A. CRISLER declared that in his opinion people are not sufficiently informed as to the why and the how of malarial infection.

DR. B. F. TURNER, Memphis, said that the time has come when more attention should be paid by the physician to the accurate diagnosis of malaria. Physicians are too prone to ascribe all fevers with vague symptoms to malaria. When microscopic diagnosis is available it should be employed. He believes that malarial patients should be screened and isolated in the interest of public health.

DR. J. L. ANDREWS, Memphis, said that he learned long ago that the physicians of the Mississippi Delta constitute the most reliable sources of information touching malaria.

DR. A. G. PAYNE, in closing the discussion, stated his regret that no arrangements are made in the state for the compilation of these vital statistics.

Gonorrhea in Girl Babies.

DR. E. ROSAMOND, Memphis, read this paper, which was discussed as follows:

DR. SUTHERLAND has seen many cases of this character and marvels that so many children escaped. The prevalence of gonorrhea among negro women is one reason for the decreasing fecundity of the race. The decreasing fecundity and increasing mortality looks like the doom of the race.

DR. SHANNON thinks gonorrhea is an evil so prevalent as to call for a crusade no less vigorous than that which the profession is now waging against tuberculosis.

DR. E. ROSAMOND, in closing the discussion, said that physicians must begin a campaign of education if they would eradicate the evil. The daily press will not print matter of a character calculated to promote this work, and physicians must turn to the mothers and make them see the necessity of cleanliness and the examination of their servants.

Infantile Scurvy.

DR. P. BEEKMAN, Natchez, read this paper, which was discussed by Dr. E. Rosamond.

DR. E. ROSAMOND, Memphis, said that God intended that babies should be raised on the mother's milk. When this is not possible, the milk of a clean animal may be substituted. The diet in disease of infants demanded the closest study. Scurvy is a disease very common in infants, easy of diagnosis and treatment. He laid stress on Dr. Beekman's practice in the elimination of proprietary foods and the substitution of fresh milk and orange juice.

Appendicitis in Children.

DR. M. D. SHIVERS, Greenville, read this paper, which was discussed as follows:

DR. J. W. BARKSDALE agreed with Dr. Shivers' estimate of the dangers of the disease in children. The diagnosis is more difficult, because more liable to be confused with diseases common to children and having similar symptoms.

DR. J. WALDAUER, Warren, described several cases that he has treated, and took the position that serious consequences are often averted by early operation.

Another Phase of the Race Problem.

DR. H. L. SUTHERLAND, Rosedale, read this paper, which was discussed as follows:

DR. A. G. PAYNE said that in his town there are six negro physicians. Their ignorance is simply appalling. How they passed the examination is more than he can understand. They do not know smallpox from tuberculosis.

DR. M. J. ALEXANDER, Tunica, said that the opportunities for diagnosis in the negro is very limited. What is to be done with the negro depends on the white race. A sick negro is useless to the planter, but the planter can be taught to isolate the case. This will take time, but it can be done.

DR. REHFELDT, Moss Point, said that a town should be provided with tuberculosis quarters. He spoke of inability to induce aldermanic boards to comply with recommendations.

DR. SUTHERLAND, in closing the discussion, said that this is a question of grave importance, and physicians are just beginning to take hold of the problem. He believes that all states will ultimately quarantine against tuberculosis patients unless patients can show that they have means of taking care of themselves.

The General Practitioner's Need of Bacteriology.

DR. J. B. BULLITT, University, was the author of this paper, which was discussed as follows:

DR. P. W. ROWLAND said that he is glad to see that in every reputable medical college in the country bacteriology is being taught.

DR. C. J. MILLER said that it is only when the microscope is used in conjunction with clinical symptoms that its true value appears. He thinks that many have come to rely too much on it.

DR. E. J. JOHNSON, Yazoo City, heartily endorsed all that Dr. Bullitt contended for. He recognized the value of the microscope, and has his young partner make a specialty of it. Since then he has been surprised that he had ever been able to get along without it.

DR. J. W. BARKSDALE said that the theory is not altogether practical. He does not believe that every physician could become a capable bacteriologist, nor could he afford an outfit calculated to give the best results. He thinks it safer for the ordinary practitioner to rely on the common methods of diagnosis.

DR. T. M. JONES, Hernando, said that many men are gifted with the microscopic eye. He thinks that the practitioner's eye should be well trained.

DR. BULLITT, in closing the discussion, said that many physicians who called on bacteriologists for analysis are disposed to rely too much on the reports in their own ignorance of bacteriology and allow the reports to outweigh all the clinical symptoms.

Other Papers Read.

The following papers were also read:

"Tinkering Versus Conservative Gynecology," Dr. J. A. Crisler, Memphis; "The Calomel and Podophyllin Habit," Dr. Rice, Summit; "Aneurism of the Femoral Vein Mistaken for Hernia," Dr. R. L. Turner, Meridian; "Surgical Treatment of Stomach Disorders," Dr. John Darrington, Yazoo City; "Report of Case of Imperforate Anus in a Baby; Operation," Dr. E. F. Turner, Leland; "Early Diagnosis and Its Importance in the Management of Pulmonary Tuberculosis," Dr. G. H. McNeill, Newton; "The Field of the X-Ray as a Diagnostic and as a Therapeutic Agent," Dr. S. W. Lawrence, Memphis; "Pellegra," Dr. W. R. Card, Meridian; "Operative Treatment of Colitis, with Report of Cases," Dr. Max Henning, Memphis, Tenn.; "Puerperal Sepsis: What Has Serum Therapy to Offer?" Dr. B. L. Crawford, Hattiesburg.

AMERICAN SURGICAL ASSOCIATION.

Meeting held at Richmond, Va., May 4-6, 1908.

(*Continued from page 1720.*)

Late Results (Two Years or More) After Operations for Benign Diseases of the Stomach and Duodenum.

MR. B. G. A. MOYNIHAN, Leeds, England, in estimating the value of surgery in non-malignant diseases of the stomach, reviewed the records of his operations to the end of 1905. They are 281 in number and are classified as follows: 1. Perforating ulcer of the stomach or duodenum. 2. Cases for which hemorrhage has been the immediate cause of urgent interference. 3. Cases of chronic ulcer, etc. 4. Cases of hourglass stomach. Of the 281 patients recent information is at hand in reference to 265. In Class 1, in 27 cases of perforating ulcer operated on 18 patients recovered. In Class 2, 27 patients submitted to operation for acute hemorrhage, 23 of

whom recovered. In Class 3, among 205 patients there were 2 fatal cases and 214 operations. In Class 4 there were 22 cases, made up of 7 males and 15 females. The total mortality in this group is 3.

A summary of the number of cases in all the groups gives the following results:

	Total number.	Recovered.	Died.	Since Dead.	Cured.
Group 1	27	18	9	0	16
Group 2	27	18	9	0	16
Group 3 205	203	2	15	159
Group 4	22	19	3	1	17
	281	263	18	16	211

The present condition of all the patients now alive is as follows: 211 patients are cured; 9 are improved; 12 are no better; 9 are doubtful; 6 are not recently reported. Thirty-four patients are dead; 18 as a result of the operation, 7 of carcinoma of the stomach, 9 from other causes unconnected with the disease of the stomach, or the operation performed for its relief. Among the lessons to be drawn from the history the following points are submitted: The operative treatment of stomach disorders should be confined exclusively to cases in which an organic lesion is present. In acute perforating ulcer, the perforation should be closed or the ulcer excised. When a non-malignant lesion is discovered the treatment depends on its position in the stomach. If the ulcer be prepyloric, pyloric or duodenal, gastroenterostomy should be performed. It is desirable also to infold an ulcer whenever possible. The most satisfactory method of gastroenterostomy is the posterior no-loop operation, with the almost vertical application of the bowel to the stomach. Regurgitant vomiting occurs as a result of the "loop" operation, whether anterior or posterior; it is relieved almost certainly by an enteroanastomosis. In hour-glass stomach the surgical treatment presents special difficulties on account of the frequency of a dual lesion; one in the body of the stomach, one at the pylorus, and consequently double operations have to be performed.

Study of Gastric and Duodenal Ulcers, with Especial Reference to Their Surgical Cure.

DR. WILLIAM J. MAYO, Rochester, Minn., discussed gastric and duodenal ulcers. In the series reported the average duration of the symptoms was over twelve years and medical treatment had failed to effect permanent cure. Only cases failing to yield to reasonable medical treatment, he said, should be considered surgically. The opinion as to cure is based on the condition of the patient two years or more after the operation. All the patients with ulcer and kindred diseases of the stomach and duodenum operated on by Drs. C. H. and W. J. Mayo since 1893 to April 20, 1908, are classified. Total number of operations was 824; the total number of patients operated on, 765. Of 543 cases of ulcer operated on 27 were acute perforations. All the patients of acute perforation treated by simple suture, with one exception, recovered and remained well. Twice in chronic cases the base of the ulcer had been cut out producing an effect similar to acute perforation. The defect was closed, good results following. In more than 300 posterior no-loop gastrojejunostomies with the intestine sutured to the stomach in its normal position downward and to the left performed for ulcer of the stomach and duodenum there is reported a mortality of less than 1 per cent., and but three patients have required secondary operation on the stomach for any cause. In all loop operations, anterior or posterior, the intestine is applied to the stomach downward and to the right, but in the no-loop method this sometimes caused angulation, turning the jejunum at the duodenojejunal angle rather sharply from its normal position, and occasionally caused chronic bile regurgitation. Excision, the Finney operation, and the operation of Rodman, he remarked, each has a field of usefulness in suitable cases. Three hundred and seventy-nine patients with ulcer of the stomach and duodenum were operated on previous to June 1, 1906, covering a period of from two to fifteen years since operation, have been traced. In 318 actually demonstrated ulcers, 80.7 per cent. of the patients were cured, 9 per cent. were improved and 4.2 per cent. were unimproved; 6 per cent. died in the years following operation from various causes, only two of which were connected with the stomach. After operation for ulcer patients require medical supervision until cure is established.

End Results Following Operation for Benign Diseases of the Stomach and Duodenum.

DR. JOHN B. DEAVER, Philadelphia, asserted that reliance on direct experience and observation rather than on theory must be condemned in the scientific surgery of to-day. He has traced 66 of the patients on whom he has performed stomach operations for benign disease. Of this number 44 are free from all gastric sysmptoms, 9 are greatly improved, 5 are unimproved and 8 have died. These figures give a percentage of cures of 66.6; of patients greatly improved, 80.3. A division of the patients is made from the operative viewpoint and the percentages of cures and improvements given. An analysis of the various diseases of the stomach and duodenum for which operations were performed, and a list of the cases traced, in more or less detail, are included in the paper. Dr. Deaver concludes: The operation of choice should always be performed when feasible; when not feasible, the operation of necessity. All cases of stenosis of the pylorus, whether due to a neoplasm, cicatricial contraction, hyperplasia, pyloroplasm, or what not, should be treated by operative interference, preferably by posterior gastrojejunostomy. All ulcers of the stomach which do not respond to medical treatment promptly, and the various sequelæ of this disease, should be treated by operation. All ulcers of the duodenum, which do not respond promptly to medical treatment, should be treated by operation. His preference in performing gastroenterostomy is by the posterior gastrojejunostomy, no-loop, clamp route.

How Frequently Do Gastric Ulcers Become Carcinomata?

DR. WILLIAM L. RODMAN, Philadelphia, believes gastric carcinomata due in at least 50 per cent. of the cases to a previous ulcer. Though statistics vary concerning the frequency of the occurrence, the latest studies give the highest percentage. Within two years he has had nine cases of cancer in which there was an unmistakable history of ulcer. In some cases the classical symptoms of chronic ulcer are so marked that there is no suspicion of carcinoma, and even when the abdomen is opened mistakes have been made by those most experienced in gastric diseases. In other cases, after two or more years the symptoms change so that malignant degeneration is suspected. Little is to be learned from gastric analysis, as the chemical characteristics may be the same as in simple ulcer. Rapid and regular diminution or disappearance of hyperacidity at intervals is the most important sign. This phenomenon probably indicates that cancer is developing. The difficulty of diagnosis is the strongest plea that can be made for early exploratory operation in all gastric cases of doubtful nature failing to yield to medical treatment within a reasonable time. Dr. Rodman advocates removal of all suspicious lesions, by simple excision, pylorectomy, or partial gastrectomy, according to the conditions in the individual case.

Gastric and Duodenal Ulcers Secondary to Wounds of the Urinary Bladder.

DR. JOHN B. ROBERTS, Philadelphia, mentioned a death from perforating gastric ulcer after suprapubic lithotomy which he had reported in 1887. A few years ago he lost a patient from hemorrhage due to ulcer of the duodenum occurring in a man who had suffered extraperitoneal rupture of the urinary bladder and other injuries. He referred to the probability of gastric and duodenal ulcerations being pathologic sequences of the bladder lesion. Dr. Roberts collected from literature and his own experience 16 instances of gastrointestinal bleeding subsequent to operative or other lesions of the urinary organs. The result was death in 14 cases, recovery in 2. There were operations for: Cystotomy, 5; litholapaxy, 1; nephrotomy, 3; extravasation of urine, 2; nephrorrhaphy, 2. There were of non-operative cases: Pericystic abscess, etc., 1; preinephritic abscess, etc., 1; perineal abscess, etc., 1; making a total of 16. In 7 of the 10 fatal cases ulceration was found at autopsy. In several of the remaining cases no necropsy was made, and the question of the presence of ulcer of the

stomach or intestines, therefore, remains undetermined. He mentioned the fact that Curling in his classic paper, published 64 years ago on duodenal ulcers secondary to burns, stated that he had seen similar ulcers in other surgical conditions than burns. Dr. Roberts quoted from papers published recently to show that a connection between abdominal and pelvic operations and postoperative hematemesis and intestinal bleeding occur often enough to suggest a pathologic connection. He mentioned cases of such hemorrhage and ulceration occurring after operative procedures on regions distant from the abdomen and pelvis. Cases reported apparently prove that the postoperative bleeding and ulceration of the gastrointestinal tract are caused by some more general pathologic influence than local interference with the abdominal and pelvic circulation alone. Experimental and clinical evidence give credence to the theory that changes in the gastric and intestinal mucosa leading to fatal issue may be the result of several local influences or of a widespread pathologic alteration in the cells and fluids of the body. Although such lesions are probably more apt to occur after interference with the pelvic and abdominal organs, enough cases are on record to lead to the belief that a general condition, such as uremic intoxication, atheroma of the vessels, toxemia and infection are instrumental in rendering the patient liable to the serious complication discussed. Investigations have been made on the production of gastric and duodenal ulcers by interference with the nervous connections of the gastrointestinal tract. He emphasized the serious prognosis in postoperative hematemesis or bloody stools, and made various suggestions as to treatment.

Infantile Hypertrophic Stenosis of Pylorus.

DR. FRANK E. BUNTS, Cleveland, reported an operation for pyloric stenosis in an infant four and one-half weeks old. The pylorus was found thickened and hard and, deeming it impossible to perform a pyloroplasty, an anterior gastroenterostomy was made. The child recovered and is living, eleven months from date of operation. Of 89 operative cases collected by Dr. Thompson in 1906, and 25 collected by Dr. Bunts, 53 patients recovered and 61 died, a mortality of 55.5 per cent., distributed as follows:

Disease.	Cases.	Recovered.	Died.	Mortality Per Cent.
Divulsion	27	13	14	51.8
Gastroenterostomy	69	32	37	53.6
Pyloroplasty	17	8	9	53
Pylorectomy	1	0	1	100

No improvement, but rather a higher mortality, was shown in the last 25 cases. Dr. Bunts concludes that congenital and infantile stenosis are of decidedly different clinical significance. Congenital pyloric stenosis calls for early operative interference. Infantile pyloric stenosis develops after birth and is often amenable to medical treatment, but in the absence of improvement an early operation offers good prospect of recovery. In selected cases pyloroplasty offers results superior to those of gastroenterostomy. The one great determining cause of death in practically all cases is delay, and it is obvious that until this obstacle is removed by the medical attendant, little or no improvement on the present statistics can be expected.

Discussion on Gastric Surgery.

DR. WILLY MEYER, New York, spoke of the complications following operations for stenosis of the pylorus and of the possibility of overcoming these. A patient under his care on the third day of convalescence passed into a deep coma, passing the stools and urine in the bed. Temperature and pulse showed no reason for the condition. The patient was given a hypodermocylsis of salines every eight hours. On the fifteenth day he regained consciousness and went on to proper convalescence. In the secondary operation he prefers gastroenterostomy plus enterostomy to the short loop.

DR. JOHN H. GIBBON asked the experience of the members of the association as to the occurrence of peptic ulcer of the jejunum as a sequel to gastroenterostomy. In the absence of its mention in a report of over a thousand cases it would seem to be unusual.

DR. GEORGE W. CRILE, Cleveland, referred to an unsurgical case rendered surgical by direct transfusion of blood at the time of operation. Although the hemolytic test of cancer is still in the tentative stage, of 66 cases 80 per cent. gave positive reaction to the test. This was confirmed by autopsy or by operation.

DR. J. M. T. FINNEY, Baltimore, has employed pyloroplasty for pyloric obstruction 48 times since 1903. Of these cases 4 patients have died. Autopsy showed the cause of death to be other than the operation. From the observations concerning gastroenterostomy it would seem unreasonable to anticipate untoward results that have not yet manifested themselves. He regards the personal equation a determining factor in the choice of operations. He gets better results with pyloroplasty. Except in a few nervous cases, his results have been satisfactory. He endorses Dr. Rodman's dictum of resection in doubtful cases of ulcer. In inflammatory pyloric stenosis he believes pyloroplasty definitely contraindicated, and that gastroenterostomy should be employed.

DR. JOHN C. MUNRO, Boston, said that an analysis made some years ago of hospital cases showed that less than 20 per cent. of gastric ulcers operated on had been failures. All the cases were grouped under the long loop, double loop and short loop. Some of the results could be definitely traced to the difference in technic. Since that time the Finney operation has been employed almost exclusively.

DR. CHARLES L. GIBSON, New York, asked whether the operations reduced the total acidity of the stomach contents.

DR. JOHN C. OLIVER, Cincinnati, has seen within the past two years four patients with congenital stenosis operated on by gastroenterostomy. Two were his own patients; two those of his colleagues. In one of the cases (a female infant) the symptoms appeared at two weeks of age. There was a family history of stomach trouble for three generations. The mother of this child, during her pregnancy, developed tuberculosis of the glands at the back of the neck. The mesenteric gland of the child showed an early stage of tuberculosis.

DR. FRANCIS J. SHEPARD, Montreal, did a pyloroplasty on a child three weeks old; the child is now eighteen months old and is in perfect health.

DR. LEONARD FREEMAN, Denver, spoke of his satisfactory employment of linen thread for the hemostatic suture in from 50 to 55 gastroenterostomies and related and experience emphasizing the necessity of from time to time examining the character of the catgut employed.

DR. WILLY MEYER, New York, warned against making a loop too long.

DR. JOHN E. SUMMERS, JR., Omaha, inclines to the belief that trauma is the cause of postoperative gastric and intestinal hemorrhage.

MR. B. G. A. MOYNIHAN, Leeds, does the posterior, no-loop operation, making the anastomosis as close as possible to the beginning of the jejunum. He regards the point of importance to be not so much the direction of the jejunum as its application to the stomach in such a way that it lies easily. With mimicry so close that it is difficult to distinguish between ulcer and carcinoma, the ulcer should be excised. He appreciates the difficulty of its excision when it lies up on the lesser curvature. He attributes postoperative regurgitant vomiting of bile to a mechanical defect at operation. He has had one case of peptic ulcer subsequent to posterior gastroenterostomy. He has collected and will publish a report of 60 cases of peptic jejunal ulcer following gastroenterostomy.

DR. W. J. MAYO, Rochester, Minn., referred to the fact brought out that there could be secured not less than 80 per cent. of permanent recoveries in gastric ulcers in which medical treatment had failed and that in something less than 10 per cent. more there will be improvement. The real difficulty in cases reported to be worse because of gastroenterostomies, he thinks, lies in the fact that the medical diagnosis has not been confirmed at the operating table; and, because the operation has been done in cases in which it should not have been done, the internist assumes the position that the cases are worse as the result of the operation. Rather than ask the medical man to turn over to him early cases of gastric ulcer, the surgeon should ask that he turn over cases of tumor the

character of which he is waiting to determine. In these cases the surgeon can do better than the medical man if they are not malignant. If they are malignant it will put into the surgeon's hands a considerable number of malignant cases in time to effect a cure.

DR. WILLIAM L. RODMAN, Philadelphia, dissents from the belief of Dr. Summers that postoperative hematemesis is due to trauma. His belief is based on observations made on dogs and inquiries of colleagues. He thinks the most rational explanation is Dr. Roberts' suggestion that it is due to sepsis. He has used Pagenstecher's suture for the inner stitch, but following a gastroenterostomy, in one case there was furious hemorrhage. Copious vomiting occurred and in one large vomited clot there was the Pagenstecher suture. He questions, therefore, whether it is well to use a Pagenstecher suture or well-chromicized gut. He appreciates the possibility that the suture might have taken a downward course and caused trouble with the bowel.

Stone, Tuberculosis of the Kidney and Perinephric Abscess.

DR. GEORGE TULLY VAUGHN, Washington, D. C., states the causes of stone to be heredity, loss of balance between ingestion and assimilation, sudden chilling of the body, leading to deposit of urinary salts which are held together by pus, blood or mucus. He described the symptoms. Tuberculosis of the kidney in the majority of cases, he said, is secondary to tuberculous foci in other parts of the body, and enumerated the symptoms, urinary, vesical, renal and general. Stone in the kidney should be removed at once; impacted stone in the ureter as soon as it is evident that it will not pass. A calculous kidney should not be removed so long as there is a chance of saving it. Tuberculosis limited to one kidney should be treated by nephrectomy. If both are affected, nephrostomy and drainage are advised. He cited a few cases illustrative of the diseases discussed: 1. Patent urachus; stones in both kidneys; four operations required. The patient now is apparently in perfect health. 2. A woman, aged 33 years, in whose case a stone in the ureter was removed which measured 2¾ inches in length, 4½ inches in circumference, and weighed 915 grains. 3. A man, aged 26, who had had pain, vesical tenderness, frequent micturition and pyuria ever since an attack of gonorrhea four years previous. The symptoms pointed to the left side chiefly. At operation the left kidney, which was found to be a pus sac, was removed with the ureter as far as the brim of the pelvis. Improvement followed, but eighteen months later nephrostomy and drainage of the remaining kidney was done for six weeks. The patient regained his normal weight and returned to work after two years in the hospital, but there is still pyuria.

The Diagnosis and Treatment of Kidney Stone.

DR. ARTHUR DEAN BEVAN, Chicago, said that diagnosis is determined by a process of exclusion and is confirmed by the *x*-ray. When the diagnosis is definite the treatment should be surgical removal except in cases of small stones, which may be passed, or in patients of extreme age, or in the presence of organic lesions which strongly contraindicate operation. In single stone in the pelvis of a comparatively sound kidney the operation of pyelotomy with closure is the operation of choice. In cases with large stones, and especially multiple stones in both pelvis and calices, and in cases with considerable infection, nephrolithotomy with or without drainage, should be resorted to. In cases in which stones are found in a kidney which is so altered as to be of little value to the patient, and when kidney sufficiency has been demonstrated, and the other kidney is not involved, primary nephrectomy should be done. In primary stones involving but one kidney, pyelotomy and nephrolithotomy are comparatively safe procedures, carrying with them but little risk. When both kidneys contain calculi the dangers of the pathologic condition and the operation for its relief naturally increase. When, because of infection and destructive process nephrectomy is required, the dangers of the operation will depend on the integrity of the other kidney and its functional capacity and the dangers resultant on the surgical removal of the diseased organ. In Dr. Bevan's series of 52 operations done for kidney stone there was but one death from nephrolithotomy and two deaths from secondary nephrectomies. Both operations were difficult because of the necessity of digging the kidney remnant out of dense scar tissue due to long-standing perinephritic inflammation.

Case of a Large Kidney Stone.

DR. DAVID BARROW, Lexington, Ky., exhibited a kidney stone weighing 1 pound and 2 drams. The stone was removed from a man of 48, whose first symptoms appeared when he was 8 years of age. During boyhood he averaged three or four attacks of pain a year. At the age of 20 urinary symptoms appeared; at the age of 30 an enlargement was noticed about the size of an orange in the left abdominal cavity. For four years he was practically invalided. In December, 1905, he was operated on in St. Joseph's Hospital. In the region of the left kidney was a tumor about the size of a cocoanut. The tumor was enucleated and consisted of the kidney with a stone in its pelvis. The pedicle was transfixed and doubly ligated with silk, the ureter was traced for about three inches and ligated with chromic catgut. Convalescence was satisfactory and at the present time, more than two years, he seems perfectly well and works every day on the farm.

Results of Operation on the Kidney for Calculus and Tuberculosis.

DR. ANDREW J. MCCOSH, New York, presented this paper, the object of which was to trace first the future life history of patients from whom in past years a tuberculous kidney had been removed. He has performed 54 nephrectomies, 19 having been done for tuberculosis. There were no fatalities due to shock; 2 patients died within a few weeks after operation; 8 patients died at periods of from one to three years after operation; 5 patients have made perfect recoveries and are in good health at periods varying from six to nineteen years. In 330 cases of nephrectomy which he has collected there were about 20 per cent. of permanent cures. He has performed 45 operations for renal calculi; 15 nephrolithotomies have been performed by him; 12 of these patients are perfectly well at the present time. In this paper the septic kidneys or those in a condition of pyonephrosis were excluded from consideration. Dr. McCosh favors the method of extraction of the stone through the kidney rather than by an incision in its pelvis.

Discussion on Kidney Operations.

DR. LEONARD FREEMAN, Denver, in operating for stone in the kidney prefers to cut through the parenchyma. He finds that bleeding is easily controlled by grasping the vessels with gastroenterostomy forceps with the flexible blades covered with rubber. He exhibited an *x*-ray picture showing shadows resembling calculi in the ureter, which were spoken of by Dr. Bevan as probably calcifications of the ligaments of the pelvis. Dr. Freeman thinks they might also be classified as calcified lymphatic glands, or phleboliths. Another *x*-ray picture revealed a cured tuberculosis of the bladder.

DR. GEORGE E. BREWER, New York, said that as a matter of fact there are no symptoms absolutely pathognomonic of stone in the kidney. Of all the signs and helps he agrees with Dr. Bevan that the *x*-ray is the most important. An absolutely good plate, however, must be insisted on. One source of error is found in the small points shown over the ureter. The majority of these shadows mistaken for stone, he thinks, are confined bodies. Another source of error was illustrated in a case of a man with history of renal trouble in which the *x*-ray showed a shadow perfectly distinct over the region of the kidney almost as large as an English walnut and with well-defined edges. This proved to be a kidney destroyed by tuberculosis.

DR. NATHAN JACOBSON, Syraucse, spoke of the value of confirmatory test of the *x*-ray in cases of renal stone and presented a number of plates showing oxalate of lime, phosphatic and uric acid stones. He related a rare case in which treatment had been given by a colleague for cystitis. Dr. Jacobson operated and on doing a perineal section a complete incrustation of the bladder wall was discovered. The child did

well until anuria developed and death followed. Autopsy showed both kidneys absolutely filled with stone.

DR. C. B. G. NANCREDE, Ann Arbor, warned against making a diagnosis of stone in the ureter or kidney by the *x*-ray alone and described a case in which diagnosis based on the *x*-ray was totally wrong. He asked Dr. Bevan whether in the small percentage of failures to find the stone in the kidney or ureter by the *x*-ray the composition of the stone was determined. He recently removed from the bladder quite a large stone which was entirely uric acid. He has never seen such a one in the kidney or ureter. Several *x*-ray examinations showed not the slightest trace of the uric acid stone removed from the bladder.

DR. ELLSWORTH ELIOT, JR., New York, confirmed the statements concerning the probability of osseous development in the ligaments of the pelvis which are mistaken for calculi. He emphasized what had been said of the atypical character of the clinical features in cases of stone.

DR. JOSEPH RANSOHOFF, Cincinnati, uses the *x*-ray only to confirm a diagnosis based on a thorough clinical study. One symptom which he believes to be absolutely characteristic of stone in the kidney is persistent, continuous microscopic hematuria. An interesting point he mentioned was that ureteral calculi sometimes produce no obstruction. Dr. Ransohoff once showed a ureteral stone which was guttered, the groove allowing the urine to pass without difficulty. He has no difficulty in controlling hemorrhage in nephrectomy with the fingers and dislikes the clamp because it prevents examination of the ureter. Whether or not the *x*-ray shows stone, he never regards an operation on the kidney complete without the passage of a catheter or probe along the whole length of the ureter.

DR. MAURICE H. RICHARDSON, Boston, has had encouraging results in his operations for stone in the kidney, yet differing in experience from Dr. Ransohoff, hemorrhage causes him anxiety in the approach to the pelvis of the kidney through the kidney tissue. The question of diagnosis is to him the most interesting thing in surgery. Many times he has "taken the field" against a diagnosis of renal stone, and has been right. He has seen calcification of mesentery tumors twice or three times, which he thinks could easily cause a mistaken diagnosis. He has known of the continuance of pain after removal of stone from the kidney, and has seen stone in the kidney fatal twenty-two years after removal of stone from the bladder, with no sign of pain during those years.

DR. WILLY MEYER, New York, believes that after exhausting laboratory research the *x*-ray should be employed in diagnosis of stone. Cystoscopy and catheterization should then be employed. The carmine test is of value unless obstruction is caused by the stone.

DR. GEORGE W. CRILE, Cleveland, spoke of the value of direct transfusion of blood in a case of nephrectomy in which there had been hemorrhage. He also referred to a large curved clamp devised by a colleague, which is useful in the control of hemorrhage and is made on the principle of the clamp used for temporarily closing the carotid artery.

DR. J. M. T. FINNEY, Baltimore, agreed with Dr. Richardson on the importance of diagnosis. Every unnecessary surgical operation is a reproach to surgery. In the words of a former member of the association, "Nine men out of ten know what to do, but the tenth man knows what not to do."

DR. M. L. HARRIS, Chicago, has operated three times in bilateral tuberculosis of the kidneys with successful results.

DR. FRANCIS J. SHEPHERD, Montreal, does not agree that hemorrhage is easily controlled. In a recent case the hemorrhage was so severe that it was necessary to remove the kidney.

DR. JOHN C. OLIVER, Cincinnati, presented an oxalic acid stone which he had supposed was the largest one ever removed. That Dr. Barrow had removed a larger one was not surprising, however, for no matter what is done in Ohio, it is usual to find that it is done a little better in Kentucky.

DR. LEWIS L. MCARTHUR, Chicago, thinks it a tribute to the foresight of Dr. Senn in that when the first exhibition of the *x*-ray was made in Chicago and he, as the nestor of the profession there, was called on to express his opinion of it, said: "I see the advent of this wonder with chagrin and anxiety, lest the student, finding a short route to diagnosis, will rely entirely on this means, and forget or neglect the means which already are at hand." Dr. McArthur referred to a case in which clinical and laboratory evidence pointed to stone in the kidney but in which the *x*-ray failed to give the shadow. Operation was thus delayed for six months until the patient was insistent, and at operation twenty stones were found in one kidney.

Diagnosis and Prognosis of Tuberculosis and Septic Conditions of the Kidney.

DR. G. E. ARMSTRONG, Montreal, stated that surgeons are interested only in unilateral and primary renal tuberculosis, that the infection is hematogenous and almost invariably descending. It is probable that the infection of the second kidney even in the presence of tuberculous cystitis is descending and not hematogenous. Nephrectomy is the safe and conservative method of treatment. Partial nephrectomy is unsatisfactory and disappointing. Nephrotomy should be preserved as a palliative measure in selected cases when no secreting renal tissue can be spared. Recovery from operation is satisfactory. Complete relief, however, depends largely on the condition of the bladder at the time of operation, and the patient's recuperative power. He gave figures to show that the results obtained in renal tuberculosis are improving.

Acute Unilateral Hematogenous Infections of the Kidney.

DR. GEORGE EMERSON BREWER, New York, called attention to the early stage of this disease, stating that the condition is not as a rule recognized. He referred to nine cases admitted to the Roosevelt Hospital during the past four years, of which only one came in with the correct diagnosis. He mentioned a number of instances in which patients presented almost typical symptoms of appendicitis or cholecystitis, and under this mistaken diagnosis were subjected to operation exposing the gall bladder or appendix. He divided the cases into three groups. In the first or severest type of the disease the symptoms are often ushered in by a chill. Mild surgical measures are of no avail. In the second or intermediary group the patients present symptoms often quite as severe as those of the first group, but the evidences of grave and progressive toxemia are wanting. In these cases decapsulation of the kidney with the opening and drainage of visible areas of necrosis or suppuration, often leads to recovery, although a chronic nephritis may persist. He reported six cases of this type treated in this manner with satisfactory recoveries. The third group comprises the mildest type of the disease. This requires no operation and is of surgical interest only because it accounts for cases in which after a fairly characteristic history of a subacute attack of appendicitis or cholecystitis, operation reveals no lesion or sign of recent inflammation. The one pathognomonic sign present in all cases is a marked unilateral costovertebral tenderness.

(*To be continued.*)

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, held March 24, 1908.

DR. HOWARD MORROW in the Chair.

Bothriocephalus Latus.

DR. ALLEN demonstrated a *Bothriocephalus latus* tape worm, which is rather unusual in this country. The specimen was obtained from a Finn, who during the course of treatment for nephritis, was given croton oil, which caused him to expel fifty feet of the worm. The infection was not suspected before that. This worm is very common in the region of the Baltic, Switzerland, Italy, Japan and southern Africa, but only thirty cases, mostly in immigrants, have been reported in this country. The patient was infected before he came to this country. The larval stage of the bothriocephalus is found in the muscles of certain fresh-water fish, and man is infected by eating uncooked or insufficiently cooked fish. The bothrio-

cephalus worm may grow to 30 or 40 feet in length. The segments differ from those of the ordinary tenia, in that the uterus is smaller, more or less round in shape and has a central uterine opening. The ova are large and oval, and differ markedly from ordinary tape-worm eggs. They resemble the ova of uncinaria, especially the *Unciniaria americana*. The eggs are laid in segmentation so that you see the individual cells within them. The cell membrane is thin and transparent. At the lower pole is the lid, or operculum, which forms the distinguishing feature of this ovum. The treatment is that of an ordinary infection with tenia. In some instances there have been as many as fifty or seventy-five in a single individual; more commonly only two or three. A point of interest in connection with bothriocephalus is the occurrence in some infected individuals of a marked anemia indistinguishable clinically or microscopically from severe pernicious anemia. This occurs independently of the number of worms present, and is presumably due to some toxic substance from the worm.

Lipolysis and Fertilization of the Egg.

PROF. JACQUES LOEB said that the first effect of the entrance of the spermatozoon into the egg is the formation of the membrane of fertilization, at least in a number of forms. He has shown that this membrane formation can be caused by various agencies, all of which seem to have one peculiarity in common, namely, that they are solvents for lipoids. These agencies are: 1. Hydrocarbons, e. g., benzol, amylene, etc. 2. Hydroxyl ions. 3. Monobasic fatty acids. Recently he found that saponin, solanin, the salts of the bile, cause also the process of membrane formation in the unfertilized egg. Last year he found that the blood of certain worms, e. g., dendrostoma, causes the artificial membrane formation in the unfertilized egg of the sea urchin. Recently he obtained the same result by treating the unfertilized eggs of the sea urchin with the blood serum of the rabbit. The question arises, How can foreign blood serum act like saponin and other fat solvents. He suggests, as a preliminary answer, that foreign blood has a slight cytolytic effect and that this cytolytic effect is due to a lipolytic action of such serum. All these observations support the idea formerly expressed by him that the first step in the fertilization of the egg consists in the alteration, probably liquefaction, of a lipoid in the periphery of the egg, possibly lecithin.

Tumor of Base of Brain.

DR. W. F. CHENEY reported the case of an Italian, aged 23, who two months ago had begun to have severe pains through the temples, and later at the base of the brain; also diplopia. He staggered as though he were drunk. Symptoms varied, patient being out and well one day and bedridden the next, and losing weight from 210 to 194 pounds. Vomiting of food. No other symptoms. On examination nothing characteristic, except pulse rate of 42. Double optic neuritis, worse on right; also paralysis of left abducens accounting for diplopia. No loss of mobility, no anesthesia or loss of reflexes or special senses. No loss of co-ordination when lying down, but complete inco-ordination on standing. No history of lues. Diagnosis, probable cerebellar tumor. As patient was rapidly growing worse, operation was decided on, but as there were no localizing signs it was decided to explore the left lobe of the cerebellum, which was done in two steps by Dr. Stillman. When the bone was opened there was enormous bulging, and complete relief of all symptoms followed. No tumor was discovered, but it was not considered justifiable to go into the right cerebellum. The patient lived for a month, spells of coma increasing. At autopsy was found a cystic glioma in back of right optic chiasm pressing on both optic nerves, nearly spherical, about 3 cm. in diameter, extending into the ventricle and occluding the aqueduct of Sylvius. Marked hydrocephalus of both lateral ventricles.

Tuberculosis of Kidney.

DR. W. F. CHENEY reported the case of a girl of 25, who, in 1906, slid down, striking heavily at base of spine. Two months later she was seized with pain in right lumbar region, running toward bladder and genitalia. These attacks were repeated at intervals, were very severe, with frequent urination, no fever, and lasting about two hours. She was well in intervals. Attacks followed by mucopus in urine. Examination showed prolapse of right kidney. A guinea-pig inoculated with pus from the urine became tuberculous. On ureteral catheterization urine from right kidney contained pus and tubercle bacilli; that from left little pus and no bacilli. An ulcerated patch, probably tuberculous, at opening of right ureter. On operation by Dr. Stillman the right kidney was found tuberculous and removed, the ureter being thickened and also probably tuberculous. Patient recovered. The question is, what will become of the patch at opening of ureter and of the ureter itself?

Cholelithiasis Simulating Gastric Ulcer.

DR. W. F. CHENEY reported this case. A woman of 46, very obese, weighing 218 pounds, with thick abdominal walls, rendering palpation impossible. History of severe attacks of stomach trouble of four or five years' standing. Vomiting brought relief. Pain and vomiting had recently been increasing. When stomach was empty vomitus consisted of sour and irritating colorless fluid. Three hemorrhages of about a teaspoonful of bright blood from stomach. Great tenderness in epigastrium and in back opposite tenth dorsal vertebra on right side; also at a point in right hypochondrium; also intense rigidity of right rectus. Stomach pump was not used because of hemorrhage. Diagnosis by several physicians of gastric ulcer. Cholecystitis and gallstone were thought of, but could not be substantiated. Attacks had always begun in epigastrium and pain had never radiated. At operation, for relief of gastric ulcer, occlusion of cystic duct was found with large gall bladder and a number of free stones with much mucopus. No gastric ulcer.

DISCUSSION.

DR. STILLMAN said that a differential diagnosis in the brain case could not be made before operation between cerebellar tumor and hydrocephalus. At operation nothing indicated any cause for the hydrocephalus, the cerebellum being normal, the ventricular lining smooth, no tuberculosis. The tumor, which was about size of a hazel nut, was not found until the brain was turned over, when it was found just behind the optic commissure on the floor of the third ventricle. The operation was done in two steps because there was a good deal of hemorrhage and the patient's condition was not such as to stand prolonged manipulation of brain. As to the gall-bladder case, Dr. Stillman said from experience that such trouble in a patient with a belly wall 6 inches thick, would generally be found to be due to the gall bladder and not to gastric ulcer. In the kidney case, the tuberculous patch about the ureter was not ulcerated. The kidney trouble was entirely in the cortex, and Dr. Stillman did not think it a case of ascending infection. The question of removing the ureter was considered, and it may yet have to be done, but often after removal of the kidney the ureteral and vesical trouble rapidly subsides.

DR. SPENCER was reminded by Dr. Cheney's gall-bladder case of a patient, aged 67, who complained principally of an ascending pyelonephritis. A marked feature was that her stomach was rebellious to almost any kind of food. She could not take the same things at different times, and most of the time was on starvation diet. Drugs failed to relieve her; lavage had no effect, and he was at the limit of his resources. She subsequently succumbed to the pyelonephritis. At autopsy the stomach showed practically no gross change, but the gall bladder contained about 40 or 50 small calculi. He explained the functional condition of the stomach as being entirely reflex and due to calculi in the gall bladder.

DR. KENNEDY said that in connection with the gastric ulcer and gall-bladder case, Dr. Cheney had eliminated gastric ulcer on the removal of the gall bladder. No evidence of gastric ulcer was noted. This called to mind a couple of cases seen by the speaker that had the classical signs and symptoms of gastric ulcer. There were gastric hemorrhage and hyperacidity, and he found at operation no evidence of gastric ulcer in either case. In both cases he did a gastroenterostomy.

In one the symptoms were entirely relieved and in the other the operation did no good at all. He would like to know whether Dr. Cheney was sure that there was no gastric ulcer in this case.

DR. CHENEY said that so far as the elimination of gastric ulcer was concerned, he could not determine the presence of ulcer. He did not know how to explain the hemorrhages. He had read recently reports of a series of cases operated on for hyperchlorhydria and relieved, where there was no ulcer at all.

Delhi Boils.

DR. HOWARD MORROW presented a patient with an eruption of Delhi boils. While working in Costa Rica last June he was bitten in three places on the face by mosquitoes. The present lesions developed from these bites. The patient states that a papule formed, which became crusted, and the crust separated, exposing a punched-out ulcer. When Dr. Morrow saw him a month ago, the ulcers had all filled in with deep granulations, and the surface of each was papillary and horny. Microscopic examination showed a dense, cellular infiltration in the corium, mostly of plasma cells. Under *x*-ray treatment the lesions have become smooth and the infiltration has disappeared. The borders are pigmented, and this pigmentation is spreading toward the centers. Three lesions on his thighs were autoinoculated and ran a course similar to the lesions on his face. No Donovan bodies have been found, and animal inoculation by Professor Flexner has given negative results.

KANSAS STATE MEDICAL SOCIETY.

Annual Meeting, held at Iola, May 5-8, 1908.

The President, DR. J. E. SAWTELL, in the Chair.

Reports of Officers.

The reports of the secretary and treasurer showed the society to be in a good condition financially. Reports were received from the councilors from the various districts, showing that in most of the districts good county organizations are being maintained, much interest being manifested in the scientific work.

Out of a total membership of 1,500 on the books of the society, 973 had paid their dues for 1908. The total number of county and multiple county societies is 69. Out of 105 counties in the state, 99 are now in the organization.

While the attendance at this meeting was not so large as some meetings in the past, the scientific work and careful preparation of the papers showed a better standard of work than at any prior meeting.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. C. C. Goddard, Leavenworth; vice-presidents, Drs. E. J. Liggett, Oswego; G. W. Goss, Sedan, and B. M. Barnett, Rosedale; secretary, Dr. Charles S. Huffman, Columbus; treasurer, Dr. L. H. Munn, Topeka; librarian, Dr. S. J. Stewart, Topeka; delegates to American Medical Association, Drs. J. E. Sawtell, Kansas City; G. W. Tooley, Washington; councilors, Drs. Charles W. Reynolds, Holton; O. J. Furst, Peabody, and J. A. Dillon, Larned. Emporia was selected as the next place of meeting.

The Kansas Medical Society, Its Mission, Its Needs and Its Purposes.

DR. J. E. SAWTELL, Kansas City, in this, his presidential address, gave a history of the society from the time of its organization, and named the objects it expects to accomplish. He also pointed out some needed legislation which had been enacted, especially that pertaining to sanitation and the pure food law, and stated that it was accomplished by the united support of the medical profession of the state. He also dwelt on the fact that one of the purposes of the society is to elevate the standard of medical education, and stated that it has received much benefit since the organization plan was adopted several years ago.

Sociologic Aspect of Gonorrhea.

DR. S. C. EMLEY, Lawrence, contended that the present social evils are due to economic conditions, such as poverty and desire for finery.

Acute Rheumatism.

DR. C. C. NESSELRODE, Kansas City, declared that acute rheumatism is an infection, and the most common point of infection is the tonsils.

Indications Calling for and Points in the Technic of Modern Mastoid Operations.

DR. T. R. EDWARDS, Chanute, dwelt on the importance of operative procedure for mastoiditis. He stated that anyone suffering from suppurative otorrhea is living over a powder magazine, so far as the danger was concerned.

Work of the State Board of Health.

DR. S. J. CRUMBINE, secretary of the State Board of Health, read an exhaustive paper on the work accomplished by the board. First, under the geenral health law; second, under the department of food and drugs; third, the work of the board under the water and sewage law; fourth, the work of the bacteriologic department.

After the presentation of his paper, a resolution was endorsed to adopt it unanimously, pledging the State Board of Health the hearty support of the society in the work being done, and commending the board for what it has accomplished.

Prostatic Hypertrophy.

DR. L. H. MUNN, Topeka, stated that operative procedure is the only means of relief for troubles of this kind.

Infiltration Anesthesia.

DR. M. F. SUDLER, Lawrence, recited the histories of a number of hernia operations with this anesthesia, a solution of beta-eucain with adrenalin in normal salt solution.

The Physician's Relation to Mental Healing, System and Methods.

REV. S. S. HILCHER, Iola, read a paper along advanced lines of thought on this subject, which received a general discussion.

Resolutions Endorse Reed for Senator.

The following resolutions were unanimously adopted and sent to Dr. Charles A. L. Reed, Cincinnati:

The Kansas Medical Society, in annual session assembled, unanimously expresses its appropriation of your candidacy as United States Senator from Ohio.

The great interest you have displayed in the matters of public health as president of the American Medical Association, and as chairman of the Committee on Medical Legislation of that great body, together with the personal sacrifice of your lucrative practice, should commend you to the people of your state for political preferment regardless of party.

Recommend State Tuberculosis Hospital.

The following resolutions were unanimously adopted:

1. To the end of alleviating suffering and protecting the healthy from danger of contagion, the Kansas Medical Society, now assembled, recommends and urges the next legislature of Kansas to build and equip a sanitarium for the care and treatment of the indigent tubercular citizens of the state.

Approve National Health Bureau.

2. The establishment of a sound rational physique is of more importance to our nation than the establishment of a sound national finance: when the people commence to decay physically it marks the beginning of the downfall of our nation.

Believing those principles to be true, we endorse the efforts of our Committee on Medical Legislation and recommend that steps be taken in every possible way to secure the enactment of a bill whereby all matters relating to the preservation and improvement of public health and sanitation be placed under the control of a single national health department, into which shall be merged all existing national public health agencies vested with adequate power and ample financial support so as to give the strongest possible federal control over all national public health interest.

Urge Education of Public.

3. WHEREAS, Physical wellbeing is the foundation of civil virtue;

WHEREAS, Publicity and accurate knowledge is necessary for the exercise of good government;

WHEREAS, Kansas is about to adopt a uniform system of municipal accounts through its tax commissioners, and

WHEREAS, Vital statistics are invaluable for the municipality as well as the State: therefore, be it

Resolved, That the legislative committee use every effort to have incorporated in this system, means for ascertaining accurately, recording, disseminating, and making public such information for the education of the people in those measures that concern the public health.

Medicolegal

Physician May Refresh Memory from Clinical Record.

The Supreme Judicial Court of Massachusetts says that in the personal injury case of Lindenbaum vs. New York, New Haven and Hartford Railroad Co. it appeared that the plaintiff had been taken to the relief station of the City Hospital. Her clinical record was kept on a white card. A physician testified that all the writing on the card was his except the first two lines, which contained the name and address of the patient. But he further testified that ne did not know the plaintiff or whether he ever treated her. On the plaintiff's offering to prove that there was no other person of the same name in the relief station that day, the judge allowed the physician to refresh his recollection by the card and testify about treating the person named in the card, stating that it was for the jury to say whether the person named was the plaintiff or not. The ruling was plainly right. There could be no question of the witness' right to refresh his recollection by a memorandum made by him at the time from his personal knowledge. All that the witness was allowed to testify to was that the person named on that card had traumatic hysteria. There was ample evidence warranting the jury in finding that that person was the plaintiff. All patients came into the accident room of the relief station with such a white card. The only remaining question was: Was the person who came into the treatment room tagged as "Sadie Lintonbume" the plaintiff? The court is of the opinion that she was. There was evidence that the plaintiff was brought to the relief station that day, and that no other person of a like name was admitted to the relief station on that day. That would have been enough.

Advertising by "Dermatological" Corporation Violation of Medical Practice Act.

Justice Deuel of the Court of Special Sessions of the First Division of the City of New York, says, in the case of People vs. John H. Woodbury Dermatological Institute and Robert Buggeln, that according to Section 1, subdivision 7, of Chapter 344 of the laws of 1907, "a person practices medicine within the meaning of this act, except as hereinafter stated, who holds himself out as being able to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition, and who shall either offer or undertake by any means or method to diagnose, treat, operate or prescribe for any human disease, pain, injury, deformity or physical condition." By Section 15 "any person not a registered physician who shall advertise to practice medicine shall be guilty of a misdemeanor." The defendant corporation was on trial for advertising "to practice medicine" within the foregoing definition, and the defendant Buggeln was charged with aiding and abetting that crime. The motion to acquit, made at the close of the People's case, turned on the construction of the word "person" as used in the last-quoted provision.

The defendant corporation had inserted, or caused to be inserted, in a newspaper an article addressed: "To the many afflicted with pittings from smallpox," wherein was advertised its ability to remove such pittings, "so that no trace of their former existence remains." And under a subhead, "We perfect," included a list of physical conditions conceded to be imperfections and commonly known as deformities. On the same day, in another paper, appeared an article wherein such corporation advertised its ability to restore "Unshapely noses . . . to correct unpleasing lines."

In another exhibit, to be otherwise circulated, appeared the words: "We have adopted a system by which all diseases of the skin and scalp may be successfully treated by our patients at their homes. To these we will, on request, forward a question blank that, if carefully filled out and returned, will enable us to accurately diagnose each case and prescribe a personal treatment that will bring about quickly the desired results." The potential "we" and "us" able to "diagnose," "prescribe," "correct," "restore" in all these cases of deformity or disease, as appeared in such advertisements, was the corporation defendant.

We do not need the statutory definition to determine that this is advertising "to practice medicine" by a non-registered physician. But the defendants demanded acquittal on the contention that the strict construction required of all penal statutes would not here permit the extension of "person" to include a corporation, and counsel supported this contention with arguments and citations which, but for the New York Statutory Construction Act, seemingly ought to be convincing. This act provides that "the term person includes a corporation" in "every statute, unless its general object, or the context of the language construed, or other provisions of the law indicate" differently.

The general object of the medical law, instead of supporting, seemingly negatives the contention of the defendants. There is no escape from the conclusion that the legislature intended to confine the practice of medicine to registered physicians, and as an incident to such practice, similarly confined its advertising. It is the individual alone, in his own name, who has legally qualified and secured registration, that may practice or advertise to practice medicine. Even if registered he may not hide his identity by assuming some other name. Possibly the defendant Buggeln was a registered physician—there was no evidence thereof—and was seeking for some ulterior purpose to conceal his identity through this species of advertising, If so, he offended the statute other than as charged, but that did not excuse the legal entity, which existed purely by statute, for offending a plain provision of law.

Undoubtedly, on the subject of advertising the legislature had in view the common knowledge that any medical advertising beyond the simplest disclosure of name, location, office hours and school of medicine, contravenes, and long has contravened, time-honored ethics of the medical profession. It is quite probable from this knowledge it was assumed that all display advertising on the subject emanated from questionable or empirical sources. And as a protection against quacks and charlatans, it was deemed prudent to confine all advertisement to those who could and did present qualifications entitling them publicly to register as physicians, believing that any invasion of professional ethics would invite suitable professional penalties, leaving all others to the ordinary penalties of the law. The statute, therefore, does not forbid medical advertising, whether modest or bombastic, if done by a registered physician, but any and all advertising emanating from other sources is clearly forbidden.

The statute simply forbids all advertising unless it shall be in the name of some individual who shall be able to obtain public registration as a physician. This conclusively appears to have been the object the legislature had in view, and being both within the letter and the spirit of act, it is the duty of the court to enforce it.

The doctrine of vested rights was not well taken. The powers secured by incorporation were those of "manufacturing chemical preparations and printing, publishing and selling books and pamphlets relating to the same." Not a single exhibit before the court pertained to these chartered rights; each was wholly outside and within a sphere of doubtful incorporate purposes.

The constitutional argument, in view of previous legislation and adjudications, was not convincing. If the legislature has constitutional competence to restrict medical practice to persons of ascertained qualifications, it may limit all individual matters, such as advertising, to the same class.

The effct a decision adverse to the defendants might have on incorporated hospitals, sanitariums and medical institutes need not be discussed. If they are offending the present law these defendants could not claim it as an excuse. As to such enterprises, however, it may be added that they come under other provisions of law, and the court is not informed that any advertise as did the defendant corporation. So far as this court is concerned, these other corporations carry on businesses which furnish accommodations for registered physicians to prosecute their professions with better results than at the home of the patient, and free accommodations for the unfortunate poor, who thus get medical care and wholesome attention which otherwise might be denied. As to them, the court knows of no alluring bait openly trailed to catch the

dollars of those able and willing to pay for the promised conversion of plainness, or even ugliness, into beauty.

Every motion should be denied, and each defendant should be convicted on the count of the information which was selected by the prosecution for this trial.

Wife Liable for Physicians' Services After Death of Husband and Failure to Make Claim Against His Estate.

The Supreme Court of Iowa says that the defendant in the case of Vest et al vs. Kramer, was a widow, whose husband, Charles H. Kramer, died after a sickness that extended over a period of a year or more. During that period, the plaintiffs, who were physicians, attended him professionally at the defendant's request. The husband was in comfortable financial circumstances, and the wife then owned no property in her own right. The plaintiffs charged their services to the account of Charles H. Kramer. Soon after the death of the latter, administration was granted on his estate. The plaintiffs filed no claim against the estate on said account, and in due course of procedure the administrator made final report, showing distribution of the assets, and was discharged.

Thereafter, and within less than five years from the death of Charles H. Kramer, this action was begun. The defendant resisted payment, and sought a reversal of a judgment rendered against her on the theory that her liability, if any, on said account, was that of surety only, and that the plaintiffs having released the husband's estate by failing to present and prove their claims in due season, she was also discharged. The point was also made that the plaintiffs having failed to file their claim against the estate of Charles H. Kramer within the time allowed by law, their right of action thereon as against said estate became barred by the statute of limitations, and, being barred as against the estate of the deceased, it was thereby also barred as against his surviving widow.

But in the opinion of the Supreme Court, which affirms the judgment of the court below, the liability of the defendant was not that of mere surety for her husband. The Iowa statute makes the property of both equally liable for the payment of such family expenses. As between them and the creditor both are liable as principals, and the discharge of one does not necessarily work the discharge of the other. While both are liable for the same debt, and payment by one operates as a discharge to that extent of the other, they are not joint debtors. There is no joint promise or joint contract. The liability of one is contractual, while the liability of the other is purely statutory. In the present case the right to enforce the claim against the husband's estate was lost by failure to duly present the same for allowance, but, in the court's judgment, the statutory liability of the wife remained unaffected, and might be enforced against her by ordinary action begun within five years. Under this rule the action was instituted in proper time.

Sufficiency of Evidence of Death from Alleged Negligence in Anesthesia.

The Supreme Court of New Hampshire says that the defendant in the case of Boucher vs. Larochelle was employed to set a broken bone in the arm of the plaintiff's child, aged 17 months. He administered chloroform, and before the operation was completed the child died. The plaintiff offered evidence tending to show that death may result from the negligent administration of chloroform, and of the defendant's lack of care in administering it likely to produce this result. While the evidence was not without contradiction, and was not entirely clear and convincing, it could not be said there was not some evidence tending to establish each of these propositions. It was for the jury to determine what amount or weight of competent evidence was sufficient or insufficient to convince their minds and warrant them in determining the matter of fact in dispute. From these facts, in the absence of other sufficient cause for the child's death, the jury could infer that the death resulted from the defendant's lack of care. There would be a direct and visible connection between the negligence charged and the injury complained of.

But the defendant contended that, conceding that there was some evidence of the character stated, the conclusion that the death resulted from the negligence proved would be a mere surmise or conjecture, because it appeared from the evidence that the mere administration of chloroform to persons in a certain rare and obscure pathologic condition is sufficient to cause death, and that the fracture of a bone may cause a fatal embolism. The claim was that the death of the child might have been due to its condition, or might have been the direct result of the fracture, and that, therefore, the plaintiff failed to prove that the defendant's negligence was the cause of death. Using the word "proof" in the sense of demonstration to an absolute certainty, the defendant's contention could probably be sustained. Questions capable of exact demonstration are rarely the subject of litigation. No such burden rested on the plaintiff. He was not bound to exclude all possible causes of death. He was required only to make it more probable than otherwise that the fact was as he claimed it. The rule that the jury can not be permitted to determine by guess or conjecture between two equally probable causes of the injury, for one only of which the defendant is responsible, has no application, unless the existence of a sufficient cause or causes for the injury, aside from the negligence charged, is conceded or conclusively proved.

Whether the child's condition was such that the mere administration of chloroform was a sufficient cause of the fatal result, or whether an embolism resulting from the fracture was the cause of the injury, were questions of fact on which the case disclosed little, if any, evidence. If there was evidence tending to establish either cause, it must be assumed in the present posture of the case that the jury were properly instructed as to the legal effect, in the decision of the controversy submitted to them, if they found either contention sustained. It is common knowledge that death does not ordinarily follow the proper administration of an anesthetic, or immediately result from a fractured humerus. The defendant's motion for non-suit could not be sustained on the ground suggested, except on the assumption that one or the other of these claims was conclusively proved by evidence which went little farther than to suggest the possibility of their existence. The case was not one of a choice between two or more probable causes conceded to exist, but involved merely the power of the jury to determine as matter of fact the non-existence of the causes which the defendant claimed, if existent, would render the cause of death doubtful.

Where the evidence discloses no connection between the injury and the negligence charged, except a bare possibility that the former resulted from the latter, there is nothing for the jury, where it is also possible the injury may be due to other causes. But where the injury is a natural and probable result of the negligence charged, a wrongdoer can not set up as an answer to the action the bare possibility of a loss if his wrongful act had never been done.

It was for the jury to determine what inference should be drawn from the fact that neither party secured or asked for an autopsy.

Disposition of Malpractice Case—Attending Physician Can Not Substitute Another Physician.

The Kansas City Court of Appeals says that it appeared in the malpractice case of Ghere vs. Zey that the plaintiff was driving when his horse became frightened at an automobile, and he was thrown from his vehicle, his leg being broken from the fall. The defendant was called, and the charge was that he so negligently and unskilfully performed the service required in and about the broken leg as to cause it to be "impossible to get a perfect union and to get the leg properly extended, as a result of which said leg has been materially shortened, and plaintiff rendered a cripple for life."

It appeared that the defendant was contemplating a trip to Europe and that he would leave another physician in charge of the plaintiff. The plaintiff refused the offer, and employed others. The jury were told that under the defendant's employment he had no right to substitute any other person to take his place in treating the plaintiff without the latter's consent. The court thinks that it was proper to give the instruction, there being evidence in the case on which it was based.

A judgment in favor of the plaintiff was affirmed.

Marriages

FRANCIS TOBIAS DOWD, M.D., to Miss Annett Grote, both of Indianapolis, May 12.

CARL RANSEEN, M.D., Rockford, Ill., to Miss Hilda Bergland of Elgin, Ill., May 27.

G. MERRILL HAWKINS, M.D., to Miss Mabel Copeland, both of Seattle, Wash., May 23.

HARRY SCHEUERMAN, M.D., Baltimore, to Miss Catherine Heinz at Baltimore, May 6.

WILLIAM O. BURBANK, M.D., Pavilion, N. Y., to Miss Ella Lattin of Albion, N. Y., May 5.

SAMUEL J. SNODGRASS, M.D., Burket, Ind., to Miss Delia Cox of Mentone, Ind., April 29.

ABRAHAM SACHS, M.D., San Antonio, Texas, to Miss Nellie Hamburger of Chicago, recently.

CHARLES L. BROWNING, M.D., Chico, Cal., to Miss Leslie Tannehill of Fresno, Cal., May 7.

WILLIAM EDWARD DOLAN, M.D., to Miss Elizabeth Mary Doyle, both of Worcester, Mass., April 27.

LACHLAN MACMILLAN, M.D., Vancouver, B. C., to Miss Hattie Nicholas of Victoria, B. C., May 13.

HOWARD ADDISON SHARPE, M.D., Mount Vernon, Wis., to Miss Agnes E. Hanna of Chicago, April 15.

HENRY FORREST QUACKENBOS, M.D., New York City, to Miss Renee L. Walters of Newark, N. J., May 12.

Deaths

William B. Hedges, M.D. Medical College of Ohio, Medical Department University of Cincinnati, 1863; a member of the American Medical Association; charter member and once vice-president of the Ohio State Medical Association; assistant surgeon of the Eighty-sixth and Eighty-second Ohio Volunteer Infantry from 1863 to 1865; U. S. pension examining surgeon; one of the leading practitioners of Delaware Co., Ohio; died at his home in Delaware, May 14, from pneumonia, after an illness of six days, aged 72. At a special meeting of the Delaware County Medical Society, May 14, resolutions deploring the death of Dr. Hedges and setting forth his excellences, civic and professional, were unanimously adopted.

John Dutton Steele, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1893; a member of the American Medical Association, and Philadelphia Pathological Society, and a fellow of the Philadelphia College of Physicians and Surgeons; visiting physician to the Presbyterian and University hospitals, and associate in medicine in the University of Pennsylvania, Department of Medicine; an authority on diseases of the stomach; died in Philadelphia, May 17, from complications resulting from influenza, after an illness of four months, aged 39.

John W. C. Cuddy, M.D. University of Maryland School of Medicine, Baltimore, 1863; acting assistant surgeon U. S. Army from 1863 to 1865; for many years a practitioner of Baltimore; professor of materia medica from 1888 to 1895, and of theory and practice of medicine and dermatology, from 1895 to 1907, in Baltimore University School of Medicine; medical director of the G. A. R. for Maryland; died at a sanitarium in Baltimore, May 14, from heart disease, aged 68.

Edward Hadley Tweedy, M.D. University of Buffalo, (N. Y.) Medical Department, 1888; a member of the medical societies of the State of New York and County of Erie; a specialist on diseases of the eye, ear, nose and throat, and formerly postmortem examiner for Erie County; died at his home in Buffalo, May 13, from septicemia due to an operation wound, after an illness of about a month, aged 43.

Alfred Hunter Voorhies, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1860; a member of the American Medical Association, formerly of Memphis, Tenn.; a surgeon in the Confederate service during the Civil War, and a specialist on diseases of the eye; died at his home in San Francisco, May 5, from cerebral hemorrhage, after an illness of four days, aged 70.

Louis Ferdinand Heintz, M.D. Memphis Hospital Medical College, Medical Department, Baptist Southwestern University, Memphis, 1889; at one time sheriff of Crittenden County; for several years a practitioner of Marion, Ark.; and president of a bank in that place; who lately opened an office in Memphis; died in Marion, Ark., May 9, after a long illness, aged 39.

Thomas Conrad, M.D. Columbus (Ohio) Medical College; American Medical College Eclectic, St. Louis, 1881; an employé of the San Francisco Board of Health; died in the University of California Hospital, San Francisco, May 10, from fracture of the skull, supposed to have been due to an automobile accident four days before, aged 52.

John Wesley Stewart, M.D. New Orleans School of Medicine, of Linville, N. C.; formerly of Knoxville, Tenn.; president of the local board of U. S. pension examining surgeons and assistant surgeon of the First Alabama Cavalry Volunteers during the Civil War; died suddenly in Knoxville, March 31, from heart disease, aged 73.

John Leigh Goldie McCarthy, M.D. Toronto University Medical Faculty, 1865; for about thirty-five years surgeon of the Thirty-fifth regiment and a highly respected practitioner of Simcoe County, Ont.; died at his home in Barrie, May 11, from cancer of the stomach, after an illness of a year, aged 63.

Andrew E. Field, M.D. Dartmouth Medical School, Hanover, N. H., 1846; said to have been the oldest practitioner of Barre, Vt.; a member of the board of U. S. pension examining surgeons; died at the home of his daughter in that city, May 9, from paralysis, after an illness of one year, aged 87.

Thomas Francis Stanton, M.D. College of Physicians and Surgeons, Baltimore, 1896; a member of the American Medical Association, and an esteemed practitioner of Bridgeport, Conn., died in the Galen Private Hospital in that city, May 8, four days after an operation for appendicitis, aged 42.

Otis Sylvanus Hutchins, M.D. Rush Medical College, Chicago, 1896; a member of the Minnesota State Medical Association and Yellow Medicine County Medical Society; died at his home in Canby, Minn., May 8, from septicemia, due to an operation wound after an illness of ten days, aged 37.

Samuel W. Willis, M.D. Jefferson Medical College, Philadelphia, 1864; a member of the American Medical Association, and an esteemed practitioner of Clark County, Ky.; died at his home in Winchester, May 17, from cerebral hemorrhage, after an illness of one week, aged 69.

Wilson H. Davis, M.D. Eclectic Medical Institute, Cincinnati, 1865; Rush Medical College, Chicago, 1895; professor of therapeutics in Illinois Medical College; a member of the Illinois State and Chicago Medical societies, died at his home in Chicago, May 19, aged 65.

Charles A. Foster, M.D. Louisville (Ky.) Medical College, 1878; a member of the medical staff of the Manhattan State Hospital for the Insane, Ward's Island, New York City; died suddenly May 19, 1907, from nephritis and fatty heart, aged 58.

Cepha C. Hall, M.D. University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1879; one of the first woman practitioners of Council Bluffs, Iowa, died at her home in that city, July 29, 1907, from senile debility, aged 84.

Frank B. Brewer, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1872; of Evanston, Ill., died at the home of his son in Fort Atkinson, Wis., May 12, from abscess of the liver, after an illness of one week, aged 76.

James W. Russell, M.D. Washington University Medical Department, St. Louis, 1887; a member of the American Medical Association; died at his home in Bird's Point, Mo., May 11, after a long illness, aged 42.

C. R. Cobb, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1884; formerly of Franklin, Pa., but more lately a resident of Sharpsville, Pa., died at Linesville, Pa., May 13, after a prolonged illness.

Frederick William Range, M.D. Eclectic Medical Institute, Cincinnati, 1896; formerly of Roseville, Ill.; died at his home in Monmouth, Ill., May 14, from cerebral hemorrhage, after a short illness, aged 36.

Colin Gillespie Strong, M.D. Indiana Medical College, La Porte, 1850; surgeon for three years during the Civil War; formerly a resident of San Francisco; died in Los Angeles, Cal., May 7, aged 80.

Charles B. Warrington, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1860; once a prominent practitioner of Stewartsville, N. J.; died at Morris Plains, N. J., May 5, aged 74.

Elbern Taylor Bowers, M.D. Tufts College Medical School, Boston, 1902; died recently at his home in Boston after an illness of several months, aged 35.

Andrew J. Applegate, M.D. Kentucky School of Medicine, Louisville, 1853; died at his home in Eagletown, Ind., May 15, aged 57.

Edmund Tabor Tripp, M.D. Cleveland Homeopathic Medical College, 1901; was found dead in his office in Lawrenceburg, Pa., May 4; it is believed from the effects of chloroform, self-administered, aged 28.

Eli F. Brown, M.D. Medical College of Indiana, Indianapolis, 1879; a widely known educator of Indianapolis; died at his home in Los Angeles, Cal., May 8, from cerebral hemorrhage, after a long illness.

John R. Minton, M.D. Missouri Medical College, St. Louis, 1894; of Fortescue, Mo.; died in St. Joseph's Hospital, St. Joseph, Mo., May 3, five weeks after an operation for appendicitis, aged 48.

George A. Miller, M.D. Northwestern University Medical School, Chicago, 1906; died at his home in Ilo, Idaho, May 9, from pneumonia, after an illness of less than one week, aged 32.

Mary P. Havens, M.D. Michigan Homeopathic Medical College, Lansing, 1873; died at her home in St. Johns, Mich., May 12, after an operation for gallstone disease, aged 70.

Ebenezer G. Hubbard, M.D. Hahnemann Medical College, Philadelphia, 1905; died at his home in Larksville, Pa., May 14, after a short illness, from angina pectoris, aged 29.

Stephen Culrain York, M.D. for many years a practitioner of the Big Sandy Valley, Ky., died suddenly at his home in Summit, April 17, from hemorrhage of the lungs, aged 59.

Ellwood E. Hopkins, M.D. Jefferson Medical College, Philadelphia, 1870; a dental surgeon of Philadelphia; died at his home May 12, after an illness of one week, aged 68.

Bruce T. Harmon (License, Nebraska, 1891); coroner of Dixon Co., Neb., died suddenly from heart disease, near his home in Wakefield, Neb., May 12, aged 45.

George P. Dillard, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1854; died at his home near Figsboro, Va., May 13, aged 78.

Edward A. Hepburn, M.D. University of Pennsylvania, Department of Medicine, Philadelphia, 1870; died at his home in Fargo, N. D., Sept. 6, 1907.

Matthew Mason, M.D. Miami Medical College, Cincinnati, 1898; of Corning, Cal., was accidentally drowned at Fairbanks, Alaska, May 8.

Abner G. Channel, (Years of Practice, Kansas) died suddenly at his home near Havensville, Kan., April 25, from heart disease, aged 81.

James Benjamin McGinley, M.D. Rush Medical College, Chicago, 1885; died at his home in Chicago, May 19, after a long illness, aged 47.

Louis M. Tippett, M.D. College of Physicians and Surgeons, Baltimore, 1892; of Ridge, St. Mary's County, Md.; died suddenly, May 8.

Deaths Abroad.

C. E. Chamberland, M.D., professor of physio-chemical science at the Sorbonne, Paris; chief of the laboratories at the Pasteur Institute and inventor of the porcelain filter that bears his name; died at Paris, May 2, aged 57.

G. A. Guldberg, M.D. professor of anatomy at Christiania, died April 23 of heart disease, aged 54. His works on comparative anatomy, especially on whales and other cetaceæ, were important.

A. Martina, M.D., assistant to Payr in the university surgical clinic at Greifswald, died April 25 from sepsis resulting from a furuncle on the back of the neck, aged 30.

G. von Hüfner, M.D., professor of applied and physiologic chemistry at the University of Tübingen, died March 14, aged 68.

F. von Leydig, M.D., formerly professor of comparative anatomy at the University at Bonn, died at Würzburg, April 29, aged 87.

E. Herter, M.D., privat docent of chemical medicine at the University of Berlin, died April 10, aged 57.

Hygiene of Closing Weeks of School.—A German exchange quotes with approval an article in a daily urging that children should not be kept in suspense after the school examinations, but the parents should be notified by mail at once when a child has failed to pass. The suspense of a week or so, and then the first announcement at the closing exercises of the names of those who have failed to pass—these are all needless nervous strains that should be avoided for nervous children.

Book Notices

THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS. By Francis M. Pottenger, A.M., M.D., Professor of Clinical Medicine, Medical Department, University of Southern California. Pp. xiv-377. Price $3.50. New York: William Wood & Co., 1908.

The importance of early diagnosis in what is sometimes called the prebacillary stage of tuberculosis is most strongly emphasized in this work. On this subject the author writes: "If medical men in general would expend in learning to diagnose tuberculosis early but a fraction of the energy that a few scientists are expending in endeavoring to discover a 'cure,' we would be able to say that the cure for tuberculosis is already at hand." "Early diagnosis must be made independent of the microscope." Chapters III and IV, devoted to general rules for examination and details in the diagnosis of early tuberculosis, are worthy of careful study. That early diagnosis is of the greatest importance none will deny and we are almost if not quite prepared to take the author's position that late diagnosis is proof of professional carelessness or incapacity.

The subjects of prophylaxis, diet and treatment are thoroughly marked out with, apparently, no important detail omitted. In the matter of diet the author stands opposed to some of the systems which are still popular and warns against over-feeding. He states that a rational diet is the one which suits the particular patient in question, and he pleads for the least amount of food consistent with satisfactory gain in weight. The specific treatment of tuberculosis, concerning which more or less doubt prevails, receives extended consideration in the course of which the experience of those who have made trial of the various tuberculin preparations at home and abroad is reviewed and the author's conclusions stated. He believes that tuberculin and allied products are of value in treatment and relatively of greater value in advanced cases. He states that while a large proportion of early cases can be cured by hygienic measures alone, in advanced cases such measures are often inadequate. If the carefully guarded administration of tuberculin is added to proper hygienic measures, advanced cases have a much better opportunity of cure. The specialization of the author is here and there apparent, and it is evident that he is familiar with some refinements in diagnosis and management which will rarely be used by the general practitioner. His point of view is that of the sanitarium with its laboratory equipment and corps of trained assistants.

THE BACTERIOLOGY OF DIPHTHERIA. By F. Loeffler, M.D., LL.D., Arthur Newsholme, M.D., F.R.C.P., F. B. Mallory, M.A., M.D., G. S. Graham-Smith, M.A., M.D., D.P.H., George Dean, M.D., William H. Park, M.D., Charles F. Bolduan, M.D. Edited by G. H. F. Nuttall, M.D., Ph.D., Sc.D., F.R.S., Quick Professor of Biology in the University of Cambridge, and G. S. Graham-Smith, M.A., M.D., University Lecturer in Hygiene, Cambridge. Cloth. Pp. 718. Price, $7.50. New York: G. P. Putnam's Sons, 1908.

The purpose of this volume is to give a full account of the bacteriology of diphtheria, "the disease in which bacteriological methods are most commonly used, not only in diagnosis but also in prevention and treatment." The general scope of the book may be outlined as follows: The history of diphtheria, by F. Loeffler; the epidemiology, by A. Newsholme; the pathology, by F. B. Mallory; the bacteriology, the diphtheria bacillus and the organisms that resemble it and their distribution in man and animals, the occurrence of diphtheria and diseases resembling it, modes of infection and methods of prevention, by G. S. Graham-Smith; immunity, toxin and antitoxin, by G. Dean; mortality and serum sickness, by W. H. Park and C. F. Bolduan. We see at once that the authors have given special attention to the subjects discussed by them in their respective sections. It is gratifying as one looks over the pages to be reminded of the numerous and valuable American contributions to the study of diphtheria and closely allied subjects.

At the end of the volume there is given a very satisfactory and scholarly arranged bibliography throughout which references are freely quoted for the statements that are made, especially in those cases where differences of opinion exist. The illustrations are wisely selected. The work meets the practical needs of the bacteriologist, the health officer and the physician to whom the ordinary sources of information,

such as text-books, must often be insufficient and to whom the finding and consultation of original articles may be a difficult task for numerous reasons. The work represents a reliable and exceedingly useful summary of the knowledge of the subjects of which it treats. A pleasing innovation is the insertion of the portraits with brief biographic notes of Bretonneau, who distinguished diphtheria as a separate disease and named it; of Loeffler, who discovered the bacillus; of von Behring, who discovered antitoxin, and of Roux, who applied antitoxin to the cure of the disease in man. We are told in the preface that the Cambridge University Press contemplates the publication of similar volumes dealing with the chief infective diseases if this work meets with approval. In the event that other volumes should be published, and we are sure that the present work will meet with a cordial reception, we respectfully submit that better binding be used. That of the present volume is flimsy.

CLIMATE. By Robert DeCourcy Ward, Assistant Professor of Climatology in Harvard University. Cloth. Pp. 372, with illustrations. Price, $2.00. New York: G. P. Putnam's Sons, 1908.

This book contains a clear and systematic presentation of the subject from a general point of view with a fair amount of space given to the relations of climate to disease. The work is adapted to the general reader, but appears to be rather too little detailed in its statements to be of great value to the physician. The interesting question of changes in climate is discussed in the last chapter. The inconclusiveness of much of the evidence which is supposed to show that the climate of a country is liable to change is clearly set forth. The author seems inclined to deny the influence which it is generally agreed that deforestation has over the climatic conditions. He says: "Finally, it is clear that man, whether by reforestation or deforestation, by flooding a desert or draining a swamp, can produce no important or extended modifications of natural climate. This is governed by factors beyond human control." We fail to find any discussion of the relation of the intensity of light to health, a subject which would seem to be of sufficient importance for consideration even in a general work of this kind. A very conservative view of the prophylactic influence of climate is presented, good hygiene being regarded as of more importance than the mere state of the weather. Insanitary conditions are often, however, the outcome of the climate so that the indirect influence of the climate must be recognized as a real although generally avoidable factor in the production of disease.

REPORT OF THE NEW YORK STATE COMMISSION TO INVESTIGATE THE CONDITION OF THE BLIND. Cloth. Pp. 586, with illustrations. Albany: J. B. Lyon Co., State Printers, 1907.

This report gives the results of an extensive inquiry into the condition of the blind, the causes of blindness, the methods used in various states for its amelioration and prevention. The latter sections will be of interest to the medical profession. Blindness entails peculiar mental conditions which are apt to have their physical effects and should claim the attention of both the medical profession and the laity. Much of the relief work suggested has for its object the bringing of more comfort and intellectual pleasure into the lives of these afflicted ones by education and provision for occupation, such as reading, light work, etc. It should be realized that at best only a small proportion of the blind can become self-supporting and that the state must provide more or less charitable aid for the rest. The investigation covers the causation of blindness by mechanical accidental injury, the communication of infection in school, and more especially the blindness resulting from ophthalmia neonatorum which results, in the majority of cases, from the carelessness of physicians or the ignorance and carelessness of midwives. It is urged that physicians and midwives should be held to stricter responsibility for the proper care of the eyes of infants born under their care; that boards of health should take measures for the education of the public regarding this disease; that proper solutions of silver nitrate should be furnished to the physician or midwife free of charge and the use thereof required in every case where not especially contraindicated; and that physicians should report every such case occurring in their practice.

GYMNASTIQUE RESPIRATOIRE PENDANT LES MOUVEMENTS. By Fr. Guermonprez. Cloth. Pp. 470, with 220 illustrations. Paris: J. Rousset, 1, rue Casimir-Delavigne, 1907.

In this book the author lays especial stress on the exercises that develop the respiratory organs in a healthful way as well as harmoniously build up the general muscular system, and also discusses their therapeutic usage. It is not the acrobatic gymnastics that is treated of, but the scientifically ordered exercise that symmetrically develops the organism and which can be employed as a valuable part of the treatment of various diseases and deformities, including some not exclusively those of the respiratory organs although these are naturally the first considered. The book is very fully illustrated and liberal in its references to French, Swedish and other continental authorities on the subject.

LABORATORY STUDIES IN TROPICAL MEDICINE. By C. W. Daniels, M.B., Camb., M.R.C.S., Eng., Director of the London School of Tropical Medicine, and A. T. Stanton, M.D., Tor., M.R.C.S., Eng., D. T. M. and H., Camb., Demonstrator London School of Tropical Medicine. Cloth. Pp. 491, with illustrations. Price $4.00. Philadelphia: P. Blakiston's Son & Co., 1907.

The chief modifications in the second edition are due to the advances made in the knowledge of tropical medicine. Since the first edition was published, information as to ticks, biting flies, and fleas as carriers of disease has been added, the chapters have been subdivided, and tables are included, giving a systematic classification which shows the zoologic relationship of parasites and their carriers.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Dr. McCormack in Pennsylvania.

The work being done by Dr. McCormack is meeting with a degree of success much greater than was anticipated. The people are beginning to realize the significance and importance of this work and in every state to which he goes the reception accorded him and the effect produced by his addresses are more marked.

The work done in March and April in the states of Mississippi and Louisiana was noteworthy, but the results produced in Pennsylvania during the present month, so far as can be judged from newspaper comments, are even greater.

Dr. McCormack began his Pennsylvania itinerary on May 4, and has since spoken at the following places: Washington, May 4; Beaver, May 5; Pittsburg, May 6; Johnstown, May 7; Lewistown, May 8; Chambersburg, May 9; Carlisle, May 9; Philadelphia, May 11; West Chester, May 12; Chester, May 12; Norristown, May 13; Allentown, May 14; Pottsville, May 15; Wilkes-Barre, May 16; Scranton, May 18; Bloomsburg, May 19; Sunbury, May 19; Harrisburg, May 20; Williamsport, May 21; DuBois, May 22; Erie, May 23; Warren, May 25; Meadville, May 26; Oil City, May 27; Franklin, May 27; Butler, May 28, and New Castle, May 29.

The newspaper comments are extensive and it is only possible to quote from a few of them.

The Pittsburg papers were particularly outspoken. *The Leader*, speaking editorially on the day following the meeting, said:

The world owes the doctor more than it will ever pay him. His is the noblest and least selfish of all the work of man. Imagine the American Bar Association engaged in a campaign against needless and preventable litigation, spending money contributed by its members to carry on educational work among the people that they may be taught to avoid lawsuits. . . . Or even take those supposed public servants whose sworn duty it is to act in office for the common good and think of them subscribing to a fund to put lecturers in the field to teach the people to abolish useless offices and to bring about true economy, to open their eyes to the wrong committed in the name of the government and to lead them to a better and happier condition. You would then have an idea of the work that is now

being done in this country under the direction and at the expense of the American Medical Association, aided and assisted by all the state and county societies. . . . Those who attended the meeting at Carnegie Hall last night came away with a deeper knowledge of their own welfare as a self-governing people. They knew before and now they know better than ever that they and their neighbors have been neglecting the most vital function of government, namely, the protection of the lives and the promotion of the happiness of the people.

The Pittsburg *Dispatch* said:

No orator ever spoke more effectively and impressively to his audience than did Dr. J. N. McCormack . . . when he pleaded for the cooperation of the people in the effort of the medical profession to lessen disease. The audience was intensely interested. It filled the great hall with the exception of the gallery and remained throughout the address, increasing in enthusiastic applause as the time passed.

Editorially, the *Dispatch* said:

Much good should flow from the meeting of last night. . . . The doctor's address was a message of friendly instruction from 80,000 physicians and a treatise on how to prevent one-third of the illness of the community and how to postpone one-third of the deaths. Surely this is a subject that touches every citizen in his daily life. It is one worthy of consideration or the message would not come from so eminent a body. . . . We accept unreservedly the assurance of Dr. McCormack that he and his colleagues have none but an altruistic interest in this movement. . . . The public should hail with joy the offer of guidance in the preservation of health, the greatest of mundane blessings.

The Pittsburg *Post* said:

In a forceful plea for a more sympathetic attitude on the part of the laity toward the medical profession, Dr. J. N. McCormack last night inaugurated a movement which will mean much for bettering the health of Pittsburg.

The Pittsburg *Times* said:

With representative clergymen, educators, scientists and medical men of the city on the platform; with an address by a representative of the American Medical Association, attended by more than 1,000 laymen, members of women's clubs and physicians, one of the most remarkable public movements for the improvement of civic conditions in Pittsburg was started last night at Carnegie Institute. . . . Dr. J. N. McCormack made the principal address of the evening. At the close of his address the entire audience rose to its feet and applauded him loud and long. Following him, Bishop Canevin spoke, also Chancellor McCormack, Superintendent Hamilton and Dr. Brashear. All the speakers endorsed the suggestions made by Dr. McCormack and pledged their support.

At Johnstown a large meeting presided over by Lieutenant Governor R. S. Murphy was held. Following Dr. McCormack's address, a committee was appointed to consider ways and means of carrying out the suggestions made by the speaker in improving local health conditions. This committee included lawyers, ministers, teachers and physicians. A local health organization was effected and plans made for public instruction on health matters, medical inspection of school children and improved sanitary measures. The following Sunday the pastor of the First Presbyterian Church of Johnstown delivered a sermon on public health, taking as his general subject the address given by Dr. McCormack. In the course of his sermon the minister said:

We must eat pure food, drink pure water, keep good hours and put away the dopes and narcotics and patent medicines and alcoholic liquors against which physicians have warned us. God will not dig sewers for us nor preserve our streams from contamination if we keep on polluting them. We must raise our voices in the city government and let it be known that we want a clean city and a healthful city. . . . In a movement such as this, churches and Christian people should lead the way.

The Lewistown *Sentinel* said:

A great message was given to the people of Juniata Valley and particularly of Mifflin County and Lewistown by Dr. J. N. McCormack on Friday evening. . . . An audience of fully 1,000 people filled the church. It was a thoroughly representative assembly. . . . The lecture of the evening was of a most practical and valuable nature. It was not technical . . . but was couched in simple and plain language that could be readily understood and put into daily practice. It was a message that should be brought to everyone in this county and state.

The Franklin Repository of Chambersburg says editorially:

In his lecture, Dr. McCormack presented some facts that were startling in the extreme. . . . A great responsibility rests on the medical profession and on the public in general. . . . If the visit of Dr. McCormack to our town has done nothing else, it has certainly set our people to thinking how derelict we have all been. We hope it will not stop with simply a thought, but that from this time on such arrangements may be made as will better conditions and will give to our community such sanitary regulations as will prevent the spread of contagion and preserve the health of our citizens.

In Philadelphia, the meetings held were particularly noteworthy. The *Ledger* said:

Startled by an assertion that one-third of the deaths in Pennsylvania last year were due to preventable diseases, a large audience last night vigorously applauded every feature of the proposed broad campaign of education in the interest of the public health. Mayor Reyburn presided, and while suggesting that it might not be possible to realize the ideal, endorsed the campaign so far as it affected sanitary, hygienic and health betterment. With the mayor sat distinguished men of various faiths, professions and political beliefs, all united in a common cause.

Editorially, the *Ledger* said:

Dr. McCormack . . . represents a deliberate movement fostered by the American Medical Association to organize not only professional but public action for the furtherance of public hygienic and preventive medicine. This is an effort in which physicians necessarily must lead, but in which their work can be of little avail except through support by an educated public opinion and by the cooperation of legislators, lawyers, teachers and intelligent citizens generally. If all the various professional, scientific and philanthropic associations can be brought to work together to a common end their concentrated influence might accomplish incalculable results for the prevention of disease and for the health and comfort of our people.

The Chester *Republican* said:

It has been seldom that such a representative audience has assembled in Chester as the one which gathered last evening to hear Dr. J. N. McCormack. Scattered throughout the audience were physicians from every part of Chester and Delaware County. . . . Ministers of the gospel were eager listeners and it was noticeable that a large number of public school teachers paid strict attention to everything that was said.

The Norristown *Times* said, editorially:

Last night's gathering . . . ought to be and we believe will be prolific of far-reaching benefit. . . . The large audience present . . . spoke volumes for the intelligent interest of Norristowners and their desire to better understand the situation. . . . It is a great pity that every man, woman and child in Norristown could not have heard the address.

At Pottsville, an editorial accompanied the account of the meeting in the local paper, emphasizing the necessity of cooperation between the profession and the public for the control of tuberculosis.

The Wilkes-Barre *Times Leader* said, editorially:

The lecture was one of the most entertaining and instructive ever heard in the city. The association is to be congratulated on having such a representative to show the American people what can be done in the nature of relieving sickness and suffering and preventing death. Millions are spent each year to protect our property, a few should be expended in protecting and saving lives.

The Williamsport *News* said editorially:

Dr. McCormack's lecture was one of the most interesting and instructive ever listened to in this city. Those who were present last night were highly edified and those who were unable to attend missed an opportunity to hear discussed questions of great importance to the public. . . . The *News* prints Dr. McCormack's address in full and urges its readers to give it a careful persual that the truths enunciated may sink deep into the public mind.

The Harrisburg *Star-Independent* said editorially:

A question which every community must decide for itself and decide rightly is this: Is it cheaper and more desirable

to pay immense sums for sickness and death than to pay for the prevention of diseases and deaths due to preventable diseases? This is the question which Harrisburg must answer for itself, a question brought home to it by Dr. McCormack in his address in the Board of Trade last evening. . . . It is better to pay a comparatively small sum for health than a large sum for sickness and death. The preservation of health and life is the supreme test of civilization and there is plenty of room for progress in Pennsylvania.

The Harrisburg *Telegraph* said:

Last evening the Board of Trade auditorium was filled to the doors.

In an editorial commenting on the meeting the *Telegraph* says:

When the people awake to the real menace which confronts this nation in the indifference of the men, women and children to the perils that surround them through their disregard of ordinary health precautions, they will cooperate more earnestly and intelligently with the physicians of the country who are now laboring to arouse public sentiment. . . . These problems must be solved and solved courageously in every community. We congratulate the Dauphin County Medical Society on its advanced position.

The DuBois *Courier*, beside devoting nearly a page to an account and abstract of the meeting, says editorially:

This community certainly owes a vote of thanks to the local physicians and medical societies. . . . The meetings were really a part of a splendid stupendous campaign as wide as the nation for the enlightenment of the people. . . . This campaign has been inaugurated by the medical profession. It is purely philanthropic and what the medical men ask is cooperation on the part of the people. They are entitled to all the assistance that can be given to them. Let us see that they get it.

From these extracts, only a few among those received, it can be seen how profound an impression Dr. McCormack's work has made on the citizens of the state. It is becoming more and more evident that the public is ready for far-reaching reforms and needs only to be instructed as to how and where to go to work. The past year has seen greater interest on the part of the people in public health problems than ever before. The work which Dr. McCormack has done in arousing interest in the states which he has been able to visit should be utilized by county and state organizations. The enthusiasm should be maintained and increased by further public meetings, lectures and general education. The desire for better sanitary conditions should take the form of effective laws or of amendments to existing laws, carefully drawn with a view to the public good.

A Bill to Regulate Expert Testimony.

The Medical Society of the State of New York and the New York State Bar Association are considering legislation for the regulation of medical expert testimony, in order to do away with some of the absurdities along this line which have recently occurred. A special committee appointed by the Medical Society of the State of New York has drawn up a tentative bill.

Dr. John A. Wyeth, president of the New York Academy of Medicine, who is a member of the committee, presided at a public meeting held at the academy building recently, at which Judge Rufus B. Cowing, for twenty-eight years a judge in the General Sessions Court, discussed the question of medical expert testimony. Dr. Wyeth read the following bill which, it appears, has been approved by the physicians' committee.

At any time in the pendency of any civil proceeding in any court in which any medical or surgical question is likely to be material the court or any justice thereof may, or at the request of either party shall, appoint from the list made up as hereinafter provided one or more persons learned in the science of medicine and surgery, and of not less than seven years' actual practice, as official experts, who shall investigate the facts of the case and give their opinion on any such question arising in such proceeding, and make written report thereof to the court.

Section 2. On such appointment by the court, or if the parties file an agreement designating an expert for the case, the court shall issue an order for the person so appointed or agreed on to be served in the manner provided by law for the service of subpenas. As soon as may be after service thereof the expert shall make such examination of the case as in his judgment may be necessary and practicable, and shall file his report as above provided.

Section 3. Such report shall be filed in the case, and shall thereupon be open to the inspection of either party, and such report may be read in evidence, and such expert may be called as a witness by either party at the trial.

Section 4. The New York Academy of Medicine, for New York City, and the Medical Society of the State of New York, acting for the state outside of New York City, shall, through committees appointed by these organizations, furnish to the court or courts in various counties, a list of names of members of the medical profession of good standing and of not less than seven years' actual practice, recommended by them as competent and expert in medicine and surgery, from which list the court may select such expert or experts as in its judgment may be required.

Such official expert shall be paid out of the treasury of the county a minimum fee of $50 for the examination of, and report on, any case in question, $50 additional for the first day's attendance in court on the case, and $100 a day thereafter while attendance is required by the court.

The expert witnesses so listed may be called by any court of the state, and if called from the county of their residence the fee shall be increased to the extent of the extra expense incurred, to which shall be added a reasonable compensation for such extraordinary service and loss of time.

Section 5. Either party at the trial may call other expert witnesses than those appointed or agreed on, but at his own expense.

The evils connected with the present method of eliciting expert evidence on medical and surgical subjects have long been recognized. Regulation through joint action by the authorized representatives of the two professions involved would appear to be the logical method of solution. The outcome of this effort at regulation in New York will be awaited with much interest.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month.

SECOND WEEKLY MEETING.

Acute Gastritis.

Pathology: (a) Catarrhal gastritis. Incidence. Changes in mucous membrane, location, microscopic changes.
(b) Follicular gastritis. Rarity, incidence. Gross and microscopic changes.
(c) Membranous gastritis. Association, gross and microscopic changes.
(d) Corrosive gastritis. Toxic, caustic agents usually found. Variations in lesions found. Results.

Symptoms: Usual onset. Persistence of symptoms. Physical examination. Follicular form marked by hemorrhage. Corrosive gastritis. Mouth and pharynx, pain, vomiting, collapse, intestinal symptoms. Prognosis.

Treatment: Gastric lavage. Medicinal treatment. Special indications in corrosive gastritis. Avoid lavage, use antidotes, bland drinks, opium.

Chronic Gastric Indigestion.

Symptoms.—In infants: Examination of stomach contents; mucus, reaction, rennet, pepsin, hydrochloric acid, fatty acids, motor function. Vomiting constant symptom; time, vomitus. Bowels. General symptoms. Course of disease.

In Older Children: Gastric and intestinal symptoms. General symptoms.

Treatment: Hygienic. Stomach washing; technic, results accomplished. Dietetic; wet nurse, modified milk, diet of older children.

Acute Intestinal Indigestion.

Symptoms: In infants and older children. Pain, tympanites, diarrhea, constitutional symptoms. Stools; number, changes in color and character, reaction, bacteria. Course of disease.

Treatment: (a) Elimination. Therapeutic action of calomel, castor oil. (b) Rest. Dover's powder. (c) Dietetic.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

MINNESOTA State Board of Medical Examiners, Old Capitol, St. Paul, June 10-12. Secretary, Dr. W. S. Fullerton, 217 American National Bank Bldg., St. Paul.

IOWA State Board of Medical Examiners, Capital Building, Des Moines, June 4-6. Secretary, Dr. Louis A. Thomas, Capital Bldg., Des Moines.

OHIO State Board of Medical Registration and Examination, Columbus, June 8-10. Secretary, Dr. George H. Matson, State House, Columbus.

MICHIGAN State Board of Registration in Medicine, University Bldg., Ann Arbor, June 9. Secretary, Dr. B. D. Harison, 504 Washington Arcade, Detroit.

SOUTH CAROLINA Homeopathic Medical Examining Board, Columbia, June 9. Secretary, Dr. J. A. Whitman, Beaufort.

KANSAS State Board of Medical Registration and Examination, Kansas City, June 9. Secretary, Dr. D. P. Cook, Clay Center.

SOUTH CAROLINA State Board of Medical Examiners, Columbia, June 9-11. Secretary, Dr. W. M. Lester, Columbia.

WYOMING Board of Medical Examiners, State Capitol, Cheyenne, June 10-12. Secretary, Dr. S. B. Miller, Laramie, Wyo.

OKLAHOMA State Board of Health, Oklahoma City, June 16-18. Secretary, Dr. J. C. Mahr, Shawnee.

TEXAS State Board of Medical Examiners, Waco, June 16. Secretary, Dr. G. B. Foscue, Waco.

MARYLAND Homeopathic Board of Medical Examiners, Baltimore, June 16. Secretary, Dr. Joseph S. Garrison, 848 W. North Ave., Baltimore.

NEW JERSEY State Board of Medical Examiners, State House, Trenton, June 16-17. Secretary, Dr. J. W. Bennett, Long Branch.

DELAWARE State Medical Examining Board, Dover, June 16-18, and by the Homeopathic Board at Wilmington on same date. Secretary of the Medical Council, Dr. P. W. Tomlinson, Wilmington.

MARYLAND Board of Medical Examiners, Lehman's Hall, Baltimore, June 16-19. Secretary, Dr. J. McP. Scott, Hagerstown, Md.

VIRGINIA State Medical Examining Board, Richmond, June 23-26. Secretary, Dr. R. S. Martin, Stuart.

PENNSYLVANIA State Medical Examining Boards, June 23-26. The Regular Board meets at Philadelphia and Pittsburg; the Homeopathic at Philadelphia, and the Eclectic at Harrisburg. All applications must be filed with Dr. N. C. Schaeffer, Secretary of Medical Council, Harrisburg.

NEW YORK State Board of Medical Examiners, Albany, June 23-26. Chief of Examinations Division, Charles F. Wheelock, Albany.

COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION.

Fourth Annual Conference, held at Chicago, April 13, 1908.

(*Continued from page 1731.*)

Discussion on Preliminary Education and the Suggested Standard Medical College.

In the discussion of preliminary education and a standard medical college, PRESIDENT ELIOT spoke of the experiences of Harvard University in establishing higher preliminary requirements. The requirement of an examination for admission was tried and abandoned. Later, the requirement of a baccalaureate degree for admission was adopted. This seriously cut down the number of students, but it attracted the attention of wealthy men to the needs of higher medical education for endowment. In regard to endowments, President Eliot said: "From the time we introduced the three-year course in 1871 we began to be endowed. Since we demanded a degree for admission we have had an additional endowment of $4,000,000. Gentlemen, the way to get endowments for medicine is to improve medical education." President Eliot considered as a serious matter the practice of allowing two years of work to be counted both toward the baccalaureate and medical degrees, and felt that in shortening the period of college residence, the amount of work done in the college should not be diminished. He was in favor of reducing the college period to three years and said that, as a rule, those who finished the work in three years were better men than the four-year men. They worked harder and as a consequence were better equipped to begin medical study. The shortening of the course in liberal arts seemed necessary, however, since the course in medicine must be prolonged to provide for "the multitude of knowledges and skills that a physician and surgeon needs to acquire."

DR. CHARLES S. SHELDON, Madison, Wis., called attention to the great need of a better preliminary training for those beginning the study of medicine and stated that, if possible, the complete college course, or at least two years of liberal arts work, should be required. This was necessary to produce broader, stronger and more intelligent physicians. It was necessary to develop the scientific spirit and the taste for science and for investigation. Dr. Sheldon argued that the requirement would not be unreasonable since the opportunities for attendance on liberal arts colleges were never as numerous as at the present time. That the trend of popular opinion would soon demand a higher grade of medical men was shown by the enormous increase in attendance at colleges of liberal arts. In the establishing of a fair minimum standard of medical education Dr. Sheldon called attention to the necessity of so economizing the student's time that he could begin the practice of medicine at about the age of 26.

DR. J. W. HOLLAND, Philadelphia, said that the need of the country for competent and efficient doctors should not be lost sight of, and that too much haste should not be made in demanding higher preliminary requirements. Although a doctor seldom knew too much, the country needed practical physicians rather than philosophers. Rather than know a great many things ill, it was better to know a few things well. He feared that higher requirements would bring the student into his medical work so late that the best grasp of the medical subjects might be prevented. The young doctor, he advocated, should be engaged in his life work at 24.

DR. FREDERICK H. GERRISH, Portland, Maine, spoke of the difficulties of the colleges of arts in arranging to give one year of work in physics, chemistry and biology. Secondly, he did not believe in crowding into the medical curriculum botany or zoology or any other non-medical subjects. He said botany was "the path of easiest, most delightful and most useful entrance to the domain of natural science." A knowledge of botany was of much value because of the discipline it gives in the methods of scientific diagnosis, and botany ranked almost with analytic chemistry in the training for diagnosis by exclusion. After reference to the work of the Council in inspecting medical colleges, he said that twenty-one years ago he found that fully one-half of the medical schools did not live up to the statements made in their annual announcements.

DR. MURRAY GALT MOTTER, Washington, D. C., said that in the education of the physician, chief attention should be given to providing the intellectual capacity which, after the student has learned "What is the matter?" and "What to do?" would enable him to apply the means to the conditions. Otherwise he would not be best prepared successfully to follow the practice of medicine.

PROF. A. H. F. BARBOUR of the University of Edinburgh, Scotland, spoke of the great progress in medical education since his first visit to this country thirty-one years ago. He was inclined to disfavor unnecessary examinations, and showed how in Scotland three separate examining boards were induced to combine. It resulted in establishing a single license examination in Scotland which has brought about a higher standard of teaching. He said the chief good of an examination is the reflex it has on the teachers. Regarding his experiences in the work of inspecting the various examining bodies for the purpose of establishing better and fairer methods, he said that it was astonishing what you can get people to do if you keep at them from the inside instead of forcing them from the outside.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., in answering some queries regarding the standard medical school, said that the committee did not include an enumeration of the apparatus necessary for teaching, since that was a matter left to the inspectors. Regarding the 75 counts of high-school work, he said that on the old basis of figuring a unit as four recitation periods a week only 60 counts resulted, but it was later agreed that the unit should represent five recitation periods per week. The fifteen units of high-school work would, of course, then amount to 75 counts. In regard to preliminary college work, Dr. Vaughan advocated either the shortening of the college course or of giving the students more work to do.

THE CHAIRMAN: The next in order is the report of the Committee on "The Essentials of a Model Medical Practice

Act." Dr. Beverly D. Harison of Detroit will make the first report, which will be supplemented by the report of one of the members of the committee, Dr. F. Dudley Tait of San Francisco.

DR. BEVERLY D. HARISON, of Michigan, then reported the complete text of a medical practice act containing ten sections as follows:

Section 1 suggests a single board of ten members to be appointed by the Governor from nominations made by the state medical societies.

Section 2 governs the election of officers of the board and suggests that the secretary be not a member of the board. The advantage of that arrangement would be that a suitable man could be retained in office and not be subject to the uncertainties of political appointment.

Section 3 provides for the educational qualifications of applicants and gives two methods for qualifying for licenses; viz., on passing an examination and on presentation of a license from another state. The latter is the provision for reciprocity, which is liberal and exact. If the applicant shows proof of graduation from a reputable medical college and proof of receiving a satisfactory license, this license can be endorsed regardless as to whether the other board reciprocates or not.

Provision in this section is made for the division of the examination into a primary, including the subjects of the first two years, and a final, including the subjects of the last two years of the medical course. The board is authorized to draw up rules governing examinations which may be wholly written, or partly written and partly oral or by both those methods. Clinical and laboratory examinations are also provided for. The board is given authority to allow a percentage for years of reputable practice.

The examination and classification of medical colleges by the board, is provided for, and the standard of preliminary and medical education is fixed with which colleges must conform in order to secure recognition. Provision is also made after notice of one year to add the year in physics, chemistry and biology to be taken in a literary college, in addition to the regular standard high school diploma as a requirement for matriculation.

This section also provides for the punishment of fraud in obtaining or attempting to obtain certificates and also for the refusal or revocation of certificates for grossly unprofessional or dishonest conduct.

Section 4 provides for the usual recording of the certificates in the county where the physician intends to reside.

Sections 5 and 6 refer to the finances of the board and to the salary of the secretary.

Section 7 provides for the penalties for violation of the act.

Section 8 provides for the exemption of medical officers in the United States services in the performance of their official duties, of physicians called into consultation from other states and for medical services in cases of emergency.

Section 9 gives the following definition: If any person who shall append the letters "M.D." or "M.B." or other letters in a medical sense, or shall prefix the title of "Doctor" or its abbreviation, or any sign or appellation in a medical sense, to his or her name, it shall be prima facie evidence of practicing medicine within the meaning of this act. In this act, unless otherwise provided, the term "practice of medicine" shall mean the actual diagnosing, curing, or relieving in any degree, or the professing or attempt to diagnose, cure or relieve any human disease, ailment, defect or complaint, whether of physical or mental origin, by attendance or by advice, or by prescribing or furnishing any drug, medicine, appliance, manipulation or method, or by any therapeutic agent whatsoever: Provided, that this interpretation of the "practice of medicine" shall not apply to persons who confine their ministration to the sick or afflicted or disabled to prayer and without the addition of material remedies. The burden of proof shall be on the defendant.

Section 10. This last section provides for annual reports from the assessors to the secretary of the board of all physicians residing in their districts.

DR. F. DUDLEY TAIT, of California, then submitted a report in which he said that doctors as a rule were the poorest and most prejudiced of law makers and that, in order to frame a truly medical practice act a conference should be called of the attorneys of the various state boards. He said the legal side of the question was far more important than the academic side and that what is constitutional in one state is often unconstitutional in others. He did not believe a single remedy could control the multiple and heterogeneous conditions confronting the profession in the United States. His suggestions for the practice act were as follows:

1. The appointment of the board of medical examiners should be delegated to the state medical societies. In states where the appointing power is vested in the governor, the state societies should make up the list from which the governor *must* select. Under such a plan the board would be closer to the profession, as well as the people, and politics, municipal, state, and worst of all, college politics, would be vastly restricted. No one connected with a medical school should be eligible to membership on examining boards.

2. Unless the standard of requirements is embodied in the statute, the power of determining it should be delegated to some national body. In the latter cases the constitution of the national body should be so worded as to avoid conflicts with the statutes of the various states. That such conflicts may negative all attempts to raise the standard of medical education, and even cause a grave retrograde movement, I have absolute proof. National associations can not delegate to examining boards powers which the statutes do not confer on said boards.

3. Graduates of all schools must be admitted to examinations for licensure. Properly administered, our present laws are perhaps adequate to control the output of medical colleges, but while medical men and learned societies have been discussing entrance requirements and college curriculum the fraudulent extra mural elements—osteopaths, naturopaths, chiropractics, etc.—have gained recognition in twenty-seven states. In some states the matriculants of a single osteopathic institution greatly outnumber those of all the medical schools of the state. In the face of such facts one is justified in asking if the organized medical profession of this country can have been true to either itself or the people. The remedy, in fact, the only radical remedy, if we may judge from the experience of Colorado, California and New York, is the establishment of a single composite board, the details of which have already been outlined by Dr. Harison.

4. The applicant's affidavit should contain a reference to the regularity of the course of study and examination, thus permitting the board to check the migration of plucked students from high-grade colleges to inferior and less honest institutions, a most demoralizing factor in medical education. During the past four years the California board has rejected a score of diplomas secured under these irregular conditions.

The law should make it perjury to swear falsely to matters pertaining to the board.

Every application should be most rigidly investigated in all its details by the committee on credentials, three or four weeks being allowed for such investigations prior to the examinations.

5. If we exact of all applicants—medical, osteopathic and other graduates—the same standard of preliminary education and the same duration of college course, we must necessarily grant to all the same certificate of qualification. If, on the contrary, the standard exacted of medical graduates be higher than that demanded of other graduates, several forms of certificates should be issued. Such is the case in California where we issue three forms of certificates: one for the practice of medicine and surgery, one for the practice of osteopathy and one for the practice of God knows what.

6. In order to eliminate the dangerous and ever-present personal factor, the applicant should be known and designated by number only, and the name attached to the number should be kept secret until the board has finally voted on the markings. The inspection of preliminary educational credentials and the issuance of students' matriculation certificates should

be a function of the board. The law should enumerate the subjects of examinations, and materia medica and therapeutics should not be included. A general average of 75 per cent. and a minimum of 60 per cent. in all subjects is less than colleges require for graduation, and should seem a reasonable standard for examining boards. In justice to older graduates, a credit of 5 per cent. on the general average may be granted for every ten years of reputable practice.

7. The board should be empowered to investigate medical colleges and to compel them to file an annual sworn report, as well as to issue suopoenas and to compel the attendance of witnesses. It should be the duty of the board to prosecute illegal practitioners, to employ and to fix salary of an attorney to be paid by the state. The collected fines should be paid to the state treasurer and deposited in a special fund for the prosecution of illegal practitioners of medicine.

The form of complaint should charge the defendant with practicing without a state certificate, without stating the facts. The stated fine should be a stiff one, the law should give jurisdiction to courts of record and thereby nullify the questionable methods of certain police courts, and a section should provide for enjoining the defendant from further practicing until he has obtained a certificate. Special privileges to Army or Navy surgeons and to makers of instruments savor of class legislation, and only serve to weaken the statute.

8. The section relative to the revocation of certificates for unprofessional conduct should also include all advertising of medical business which is intended or has a tendency to deceive the public or impose on credulous or ignorant persons, and so be harmful or injurious to public morals or safety. It should also include practicing under another's name or with an advertising medical company.

An annual report of the board's complete proceedings should be compiled by the secretary, copies of which should be filed with the governor and all state examining boards. It should then be published to the profession. Nothing should be left to the discretion of the board, unless it be the question of reciprocity, but even this harassing problem will be of only historical interest when state medical laws and their enforcement are made uniform.

THE CHAIRMAN.—We will now hear from the other member of this committee, Dr. William Warren Potter, president of the State Board of Medical Examiners of New York.

DR. W. W. POTTER, New York.—This is a subject which requires much study. It can not be expected that an ideal condition can be obtained at once. Different political divisions of this country are often times diverse in their interests, and it would be necessary to formulate a so-called medical practice act very carefully so as to eliminate any clause that might irritate legislatures in such a manner as to prevent a passage of the bill. It needs study, and the distribution of copies of this so-called medical practice act among the educators of the country will be very beneficial. I agree with the essentials of the proposed act, and for that reason I hope it will receive a large circulation when printed.

DISCUSSION.

DR. ALEXANDER R. CRAIG, of Pennsylvania, said that the object of medical laws is to protect the public from incompetent practitioners of medicine and these laws should not be used merely to force an upward trend of medical education. These laws should provide the minimum of qualifications necessary for the protection of the public, and in the securing of such laws we are concerned only for the protection of the citizens of the commonwealth. Examining boards should establish a fair standard of preliminary qualifications which would not only enable the applicant to obtain medical knowledge but would insure that he has the ability to use it.

The idea of protecting the public should also be kept in mind in establishing reciprocity. If a man can show that he is a safe practitioner in one state he will doubtless be a safe practitioner in any other state, and should be registered whether the state issuing the original license returns the favor or not.

Provision should be made for revocation of licenses since a man may be a perfectly honest practitioner one year but may fall to the lowest depths the next and so become a menace to the community.

DR. R. H. GRUBE, of Ohio, said the examining board should have original jurisdiction in the revoking of licenses for abortion or other cause. If the board had the power to try the cases it could use much testimony that could not be introduced in court and thereby could revoke a license where the court could not convict. He agrees that these cases should be brought in courts of record since, according to the experience in Ohio, convictions can not be secured in the lower courts.

DR. LOUIS A. THOMAS, of Iowa, said that any model practice act should be as short and concise as possible, and that it should place responsibility on the board of medical examiners, giving them authority to do certain things without going into unnecessary details. Otherwise, he suggested, the average legislature will never adopt it.

DR. S. D. VAN METER, of Colorado, spoke in favor of the simplest kind of a law and of a non-sectarian board. He said that in Colorado, osteopaths were not permitted to use the title of "doctor" or "M.D.," nor to represent themselves as physicians. This absolutely prevents them from practicing. They are placed, therefore, on the same level with the masseur.

DR. A. RAVOGLI, of Ohio, said that although osteopaths, in order to be allowed to practice, claim they do not use drugs but limit their practice to kneading and tapping the body, in reality they practice the same as other physicians and that in Ohio they are required to present the same evidences of training as physicians.

(To be continued.)

The Public Press and Medical Standards.

The public press has begun to take a fairly active part in the movement for better educated physicians, and during the past year editorials like the one here presented are being seen more often than before. The following is from the San José (Cal.) *Mercury*, April 21, 1908:

A systematic campaign against medical quackery is being waged both East and West, according to a report from the recent annual conference of the American Medical Association. Leaders in the profession say that the campaign will be kept up until the medical schools of this country equal any in the world. This is good news to the average mortal, for whether he believes in him or not the medical man is the first he runs to when the physical machine gets out of whack.

It is encouraging, then, to learn that the percentage of know-nothings in the profession is growing less from day to day. American methods, which have been severely criticised abroad, and deservedly so, have in the past paved the way to short-route degree-getting to such an extent that any "Tom, Dick or Harry" ambitious to make an easy living had simply to answer a few questions furnished him by some so-called school, pay the price, get his diploma and begin the practice of what he proudly calls "my profession." And the extraordinary thing about it is that this ordinarily thick-skulled youth, suddenly launched in practice, soon finds patients galore. Indeed, because of his glib tongue and smooth front, he not infrequently out-distances the man of real education and training. This, of course, is the fault of the people, who, as Barnum said long ago, like to be humbugged.

But it does not follow that simply because every city, town and village in this country has its quota of abominable quacks or that because we have 48 per cent. of the medical schools of the world, we have no institutions of merit. Compared with the schools of Europe, our chief defect lies in the lack of thorough pre-medical study and in the time spent in working toward a degree. If your physician is following an industrial or mechanical calling to-day it is inconceivable that four or five months hence he can be a properly qualified medical doctor.

It is not enough to say there are as many quack lawyers as doctors, for while this is true, the possibilities of the former for doing damage to a client are infinitely less than in the case of the quack physician, who not only takes his patient's money, but his health as well.

There is no reason why the uncouth medical practitioner, who knows nothing of the mysteries of anatomy and who scarcely knows the meaning of the word physiology, should be flourishing with his cheek of adamant, while the conservative

man of culture should be languishing for want of business. The people are to blame, and until they cooperate with the medical association in the effort to weed out the brass-fronted pretenders there can be little hope of permanent reform.

"Universities" and Higher Education.

In a "Report on Higher Education" to the Board of Regents, Dr. Howard J. Rogers, the First Assistant Commissioner of Education of New York, calls special attention to the misuse by some institutions of the names "college" and "university." One of these "universities" has recently been referred to in a prominent American educational publication along with Harvard, Columbia, Chicago and other high-grade universities, and was shown, according to the number of students in attendance, to be second only to Harvard. Regarding this institution Dr. Rogers says: "In one of the largest of these so-called colleges less than 2 per cent. of the several thousand enumerated can be claimed as college students in the ordinary usage of that word in the United States. So many of these are of high-school rank as to warrant the statement that not 1 per cent. of them would be ranked as college students by an eastern college." Meanwhile, this institution and another mentioned in the report, have medical departments. Dr. Rogers calls attention to the necessity of concerted legislative action in the various states which shall define the terms "college" and "university" in order to prevent their use for misleading purposes. New York has already solved the problem so far as that state is concerned by placing the chartering of all educational institutions in the hands of the Board of Regents.

Medical Education and the Florida Practice Act.

In his report to the Florida Medical Association, April 15, 1908, Dr. Edward N. Liell, chairman of the State Committee on Medical Education, called attention to the intimate association of the science of medicine with questions relating to life and death which demands higher qualifications of medical men than of those of any other profession. In no other profession, he said, could "inadequate training work such dire results," and no compulsion rests on any community to permit untrained men to practice medicine solely as a means of livelihood. He then reviewed the conditions regarding medical education as they exist to-day; he spoke of the efforts to secure better conditions and called special attention to the important part which state licensing boards have in the demanding of better trained physicians. He called attention to the defects of the Florida medical practice act in not providing for preliminary education and in not giving the board authority to refuse recognition to low grade medical colleges.

Finally he urged that the Florida Medical Association use its influence toward the securing of amendments to the Florida law providing that the minimum requirement of preliminary education be a diploma from an approved four-year high school or an equivalent education, and that the Board of Medical Examiners be given authority to refuse recognition to all colleges not doing satisfactory work:

Correction of the Oregon January Report.

A letter from Dr. Byron E. Miller, secretary of the Board of Medical Examiners of Oregon, states that in the Oregon January report published in THE JOURNAL, March 14, 1908, page 908, the candidate who failed and who was said to be a graduate of the University of Nashville, in 1895, should have been given as a graduate of the University of Tennessee, Medical Department.

Wisconsin April Reciprocity Report.

Dr. J. V. Stevens, secretary of the Wisconsin State Board of Medical Examiners, sends us a report of the reciprocal licenses issued at the meeting held by that board April 14, 1908. The following colleges were represented:

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
College of P. and S. Chicago, (3, 1906); (1907); Ill.;	(1907)	Maine
Rush Med Coll. (1875) Michigan;	(1900)	Iowa
Chicago Coll. of Med. and Surg.	(1907)	Illinois
Northwestern Univ. Med. School.	(3, 1907)	Illinois
Medical School of Maine.	(1895)	Maine
University of Michigan... (1897) Iowa;	(1890) (1904)	Michigan
Hamline University	(1903)	Minnesota
Homeopathic Med. Coll. of Missouri.	(1907)	Missouri
Medical College of Ohio.	(1906)	Ohio
Eclectic Med. Institute, Cincinnati.	(1903)	W. Virginia
University of Vermont.	(1886)	Illinois
McGill University, Quebec..... (1904) Illinois;	(1906)	Minnesota
University of Christiania,, Norway.	(1902)	Iowa

Washington January Report.

Dr. C. W. Sharples, secretary of the Washington State Medical Examining Board, reports the written examination held at Spokane, Jan. 7-9, 1908. The number of subjects examined in was 17; total number of questions asked, 100; percentage required to pass, 75, and 70 for those having had ten years' practice. The total number of candidates examined was 105, of whom 84 passed and 21 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
University of California.	(1902)	81.0
Gross Medical College.	(1902)	76.6
Denver and Gross Coll. of Med., (1904) 84.	(1906)	82.0
Colorado School of Med.	(1901)	79.0
George Washington University.	(1907)	87.3
Columbian University, Washington.	(1893)	76.7
Medical Coll. of Georgia.	(1890)	86.0
Chicago Homeopathic Med. Coll.	(1891)	79.3
College of P. and S., Chicago, (1808) 83.	(1904)	78, 84.0
Rush Med. Coll. (1882) 76; (1895) 90; (1905) 83, 91;	(1906)	89.4
Northwestern Univ. Med. School. ....(1906) 85;	(1907)	82.0
Hahnemann Med. Coll., Chicago.	(1904)	75.2
American Coll. of Med. and Surg.	(1905)	78.0
College of P. and S., Chicago, (1899) 83;	(1903)	83, 86
Illinois Med. Coll.	(1905)	79.0
University of Iowa.	(1903)	82.2
Sioux City Coll. of Med.	(1907)	77.6
Indiana University	(1907)	78.0
Indiana Med. Coll.	(1890)	86.0
Kentucky School of Med.	(1892)	83.0
Baltimore Med. Coll. (1897) 75;	(1905)	84.0
Johns Hopkins Med. School. (1901) 91;	(1906)	89.0
College of P. and S., Baltimore.	(1907) 75,	79.7, 83.0
Tufts Coll. Med. School.	(1898)	77.0
Harvard Med. School. (1887) 76;	(1904)	76.0
University of Michigan. (1906) 82, 86.7;	(1907)	79.7, 84.8
Saginaw Valley Med. Coll.	(1899)	79.0
University of Minnesota (1901) 83; (1905) 87; (1906) 77.4; (1907) 78; 90.4.		
St. Louis University.	(1905)	83.0
College of P. and S., Kansas City.	(1898)	78.0
University of Buffalo.	(1898)	79.0
College of P. and S., New York.	(1904)	89.0
Cleveland Homeopathic Med. Coll.	(1896)	82.0
Miami Med. Coll.	(1903)	84.0
Medical College of Ohio.	(1905)	79.0
Pulte Med. Coll.	(1890)	75.0
Eclectic Med. Inst., Cincinnati.	(1903)	75.0
University of Oregon. (1899) 78.7;	(1906)	83.3
Willamette University.	(1904)	75.0
Hahnemann Med. Coll., Philadelphia.	(1907)	83.0
University of Pennsylvania. (1893) 83;	(1906)	86.0
Medico-Chirurgical College of Philadelphia (1903) 80.3; 82.4	(1906)	77.8
Jefferson Med. Coll. (1901) 84.7;	(1905)	76.9
Vanderbilt University	(1906)	78.0
University of Vermont. (1905) 84.3;	(1907)	78.0
Milwaukee Med. Coll.	(1905)	77.0
Trinity Med. Coll.	(1904)	75.4
University of Toronto, (1905) 82; (1906) 86;	(1907) 83.4;	86.3, 86.9.
University of Paris, France.	(1906)	80.0
University of Dorpat, Russia.	(1889)	
Kongelige Frederiks Universitet, Christiania.	(1906)	84.0
University of Freiburg, Germany.	(1900)	79.6

FAILED.

College of P. and S., San Francisco.	(2,1907)*	
Rush. Med. Coll.	(1891)	60.3
American Med. Miss. Coll.	(1901)	69.4
Chicago Homeopathic Med. Coll.	(1889)	60.0
Hospital Coll. of Med., Louisville.	(1907)	74.0
Maryland Med. Coll.	(1904)	65.3
University of Maryland.	(1905)	73.0
University of Michigan, Homeo. Dept.	(1883)	62.0
University of Minnesota.	(1907)	73.0
St. Louis University	(1905)	74.2
Kansas City Med. Coll.	(1898)	71.1
Barnes Med. Coll.	(1898)	34.5
College of P. and S., St. Louis. (1893) 48;	(1895)	58.6
Creighton Med. Coll.	(1901)	70.0
Miami Med. Coll.	(1882)	64.3
Pulte Med. Coll.	(1882)	68.8
Jefferson Med Coll.	(1907)	70.6
Medico-Chirurgical College, Philadelphia.	(1899)	73.4
Tennessee Med. Coll.	(1902)	68.0

* No percentage assigned.

Iowa March Report.

Dr. Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, March 10-12, 1908. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 10, of whom 5 passed and 5 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Hahnemann Medical College, Chicago	(1906)	94.6
Drake University	(1907)	76.6
Keokuk Med. Coll. of P. and S.	(1907)	81.2
Sioux City Coll. of Med.	(1907)	86.8
Kentucky School of Med.	(1907)	78.2

FAILED.

Illinois Medical College	(1907)	71.2
Keokuk Med. Coll., Coll. of P. and S.	(1904)	73.8
College of P. and S., Kansas City	(1901)	65.3
Creighton Med. Coll.	(1907)	61.3
Meharry Med. Coll.	(1895)	53.5

Minnesota April Report.

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held in St. Paul, April 7, 1908. The number of subjects examined in was 11; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 17, of whom 15 passed and 2 failed. Twenty reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College.	Year of Graduation.	Medicine.	Surgery.	Obst. and Gynecology.	Materia Med. & Tox.	Anat. & Hist.	Physiology.	Chem., Bact. & Urin.	Pathology, Eye & Ear.	Pre. Med. & Med. Juris.	Pediatrics.	General Average.
Hahne. Med. Coll., Chi.	1878	83	75	75	75	75	70	75	72	75	75	75
Rush Med. Coll.	1906	83	91	81	64	82	77	75	81	77	76	78.7
Ft. Wayne Coll. of Med.	1905	81	77	81	70	75	84	62	70	75	75	75
Baltimore Med. Coll.	1907	77	82	75	70	76	75	75	73	74	76	75.3
University of Minnesota	1907	79	84	64	76	78	85	64	73	80	76	75.9
University of Minnesota	1907	88	94	60	82	79	92	80	89	79	84	82.7
University of Minnesota	1907	90	80	79	83	84	95	81	88	82	77	83.9
University of Minnesota	1907	84	82	80	92	83	90	78	61	79	70	79.9
University of Minnesota	1906	75	78	72	75	76	91	78	89	77	72	78.3
Hamline University	1907	79	89	70	75	73	79	71	69	77	70	75.2
Hamline University	1907	77	84	75	83	62	75	75	76	77	76	76
Hamline University	1906	77	84	75	75	70	75	75	70	76	76	75.3
Toronto Univ., Ontario	1902	83	87	75	70	76	82	75	75	78	77	77.8
Queen's Univ., Ontario	1906	83	77	75	64	83	83	73	78	77	78	77.1
Queen's Univ., Ontario	1905	94	90	82	76	82	91	72	86	77	85	83.5

FAILED.

Univ. of Minnesota	1906	71	78	61	55	56	63	55	61	76	72	64.8
Miami Med. Coll.	1902	74	76	64	49	54	50	35	33	75	70	58

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with.
Hahnemann Med. Coll., Chicago (1881) Iowa; Utah	(1889) (1902)	Wisconsin
Northwestern Univ. Med. School	(1903)	Illinois
Bennett Coll. of Ecl. Med. and Surg.	(1906)	Illinois
Rush Med. Coll. (1886) Iowa;	(1906)	Illinois
College of P. and S., Chicago	(1905)	Illinois
University of Iowa	(1900) (1905)	(1907) Iowa
Sioux City Coll. of Med.	(1904)	Iowa
Keokuk Med. Coll.	(1905)	Iowa
Kansas Med. Coll.	(1900)	Kansas
Harvard Med. School	(1901)	Maine
Detroit College of Med.	(1906)	Michigan
College of P. and S., New York	(1892)	Nevada
Cleveland Homeo. Med. Coll.	(1906)	Ohio
Jefferson Med. Coll.	(1899)	Wisconsin

North Dakota April Report.

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, April 7-9, 1908. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 22, of whom 16 passed and 6 failed. Two reciprocal licenses were issued at this examination. The following colleges were represented:

PASSED.

College.	Year. Grad.	Per Cent.
Chicago Homeo. Med. Coll.	(1895)	85
Coll. of P. and S., Chicago	(1905) 79; (1906) 78, 91; (1907)	85
Rush Med. Coll.	(1907)	77
American Coll. of Med. and Surg.	(1905)	81
National Med. Univ., Chicago	(1905)	80
Northwestern Univ. Med. School	(1904)	78
Keokuk Med. Coll., Coll. of P. and S.	(1907)	78
University of Iowa	(1907)	92
University of Minnesota	(1896)	75
Hamline University	(1906)	83
St. Louis University	(1906)	85
Fulte Med. Coll.	(1897)	85
Queen's University, Ontario	(1907)	87

FAILED.

Bennett Coll. of Ecl. Med. and Surg.	(1907)	*
Dearborn Med. Coll.	(1906)	*
Keokuk Med. Coll., Coll. of P. and S.	(1904)	*
Hamline University	(1906)	*
Wisconsin Coll. of P. and S.	(1907)	*
Trinity Med. Coll., Ontario	(1905)	*

*Percentage not given.

LICENSED THROUGH RECIPROCITY.

College.	Year grad.	Reciprocity with.
Kentucky School of Medicine	(1904)	Michigan
Laval University, Quebec	(1904)	Maine

The following questions were asked:

ANATOMY.

1. Describe the portal system of veins. 2. Describe the lungs. 3. Name the branches of the external carotid artery. 4. Describe the structure of the spinal cord. 5. Give the nerve supply of the stomach. 6. Describe the liver. 7. Give the branches of the radial artery. 8. Give the contents of the pelvis. 9. Outline the heart on the chest wall. 10. Bound and give contents of popliteal space.

PHYSIOLOGY.

Answer any five questions.

1. Describe the different kinds of blood corpuscles. 2. What are the functions of the thyroid gland? 3. Name some of the principal foods containing nitrogenous bodies. 4. Give the physical properties and chemical composition of normal urine. 5. How is the temperature of the body regulated? 6. What are the functions of the spleen? 7. Describe the portal circulation. 8. How are cells reproduced? 9. What is the function of the sympathetic nervous system? 10. What is the function of the liver?

HISTOLOGY.

Answer any five questions.

1. Give the minute anatomy of the tongue. 2. Give the histology of muscular tissue and the characteristics of each type. 3. Give the histology of a medullated nerve. 4. Give the minute anatomy of the gray matter of the cerebrum. 5. Give the histology of the testicle. 6. Give the minute anatomy of the retina. 7. Give the histology of the thyroid gland.

CHEMISTRY AND TOXICOLOGY.

1. Give yeast test for sugar in the urine. 2. What are alkaloids? Name five and state from what they are derived. 3. Differentiate between a case of opium poisoning and one of uremic coma. 4. Give test for albumin in the urine. 5. Give antidotes for the following: (1) Strychnin, (2) belladonna, (3) corrosive sublimate, (4) carbolic acid.

PATHOLOGY.

Answer any five questions.

1. Give the pathologic distinction between burns inflicted on body before death and those inflicted after death. 2. What are the degenerative changes of arteries? 3. Differentiate fatty infiltration and fatty degeneration. 4. Give the morbid anatomy of acute lobar pneumonia. 5. Differentiate between tuberculous and typhoid ulcer of the small intestine. 6. What changes characterize inflammation of the bone? 7. Give the lesions of typhoid fever. 8. Illustrate and define hypostatic inflammation. 9. How are the secretions affected in anemia. 10. Give the pathology of cirrhosis of the liver.

PREVENTIVE MEDICINE.

1. What means should be adopted to check the spread of tuberculosis? 2. What steps should be taken to arrest an epidemic of typhoid? 3. Mention sources of drinking water, advantages and dangers in each. 4. Give your method of disinfection, for the house, the patient, the clothing and the excreta in the case of an infectious or contagious disease. 5. How dispose of garbage in a small village?

PRACTICE OF MEDICINE.

1. Give the characteristic differences between diabetes insipidus and diabetes mellitus. 2. Differentiate between cerebral vomiting and gastric vomiting. 3. What are the causes of endocarditis? 4. Give the etiology, symptoms and treatment of cirrhosis of the liver. 5. Give the treatment and prognosis of erysipelas. 6. What is prognosis as to the cure of epilepsy? Give the treatment of epilepsy. 7. What are the complications and sequelæ of whooping-cough? 8. What are the complications and sequelæ of scarlet fever? 9. What causes cerebrospinal meningitis and how should it be treated? 10. How should endocarditis be treated?

SURGERY.

Answer all questions.

1. Give causes, symptoms and treatment of spina bifida. 2 (a) Define hydrocele, giving varieties, symptoms and treatment; (b) differentiate it from varicocele and hernia. 3. Describe, and give causes, symptoms and treatment of a case of simple erysipelas. 4. Give causes, symptoms and treatment of a case of talipes valgus. 5. Describe the different forms of dislocation of the humerus, and give the methods of reduction of a subcoracoid luxation. 6. How would you treat a fracture of the upper third of the femur? 7. Give causes, symptoms and treatment of a case of acute gonorrhea.

OBSTETRICS.

1. State how the liquor amnii is formed during pregnancy. What is its use before and during labor? 2. Give the indications for artificial dilatation of the cervix. What is the best method of doing it: (a) During the first half of pregnancy? (b) During second half of pregnancy? 3. Give the management of a delivery in a case of head presentation with hand prolapsing. 4. Are the Fallopian tubes permeable to intrauterine fluids? How is the danger prevented? 5. What diseases of the fetus interfere with or delay labor? 6. Give the early symptoms of cancer of the uterus. The history and duration. 7. What condition of the mother would indicate the use of instruments in a normal labor? 8. Give (a) the symptoms; (b) the prognosis; (c) the treatment, of puerperal eclampsia. 9. Give method of treatment in a case of

sepsis, where a three months' fetus had been curetted from the uterus four days before. 10. Give technic of internal podalic version in head presentation. Name three conditions of the mother demanding the operation.

EYE AND EAR.

1. What is conjunctivitis? Give varieties, symptoms and treatment. 2. What is cataract? How recognized? 3. Give a description of phlyctenular keratitis, causes and treatment. 4. What is blepharitis marginalis? Give causes, symptoms and treatment. 5. Define pterygium, myopia, glaucoma, hordeolum and chalazion. 6 Fully describe your method of removing insects and other foreign bodies from the ear. 7. Give the symptoms and treatment of nonsuppurative catarrh of middle ear. 8. What is mastoiditis? Give treatment. 9. Define furnuncle and myringitis. 10. What is your treatment for acute suppuration of the middle ear?

MEDICAL JURISPRUDENCE.

1. (a) After receiving a license to practice medicine, surgery and obstetrics in the state of North Dakota, what must the recipient do with same before he can legally embark on the practice of his profession? (b) What is the penalty for practicing medicine, surgery or obstetrics in this state, without complying with the law? (c) Is a duly licensed physician exempt from jury duty in the courts of justice in this state? (d) When a physician has knowledge of a contagious, epidemic or infectious disease within the jurisdiction of a local board of health, what does the law of this state require him to do? (e) In case of the death of a patient, what does the law of this state require of all practicing physicians concerning report of same? 2. (a) Give six commonly known signs of death. (b) Is it possible to determine to an absolute certainty without postmortem, whether or not death has in fact occurred? If so, how? 3. Give the usual motives which, in a general way, underly malingering, and state what general observations would assist you in differentiating between the feigned and the real condition of a suspect. 4. (a) What is medical expert testimony? (b) On what is it based? (c) Who is qualified to give it? (d) Distinguish between medical expert testimony and positive testimony. 5. (a) Define malpractice. (b) What is the statutory limitation for the commencement of a civil action against a physician in this state to recover damages for alleged malpractice? (c) Is a physician by law authorized to perform an abortion under any circumstances? (d) Is a successful abortion, performed with criminal intent, but with great skill and for compensation, in a case where the parties interested desire such an operation, in law malpractice?

MATERIA MEDICA.

1. Name and give dosage of three preparations of belladonna and give the therapeutic properties of the drug. 2. Mention three preparations of mercury, giving dosage and therapeutic properties. 3. What effect has pilocarpin on (a) the heart, (b) the skin, (c) the salivary glands? 4. Name the preparations that you prefer to use, and give the dosage of the following: (1) Aconite; (2) belladonna; (3) digitalis; (4) nux vomica. 5. What is a narcotic, hypnotic, anodyne, and name those most commonly used?

WOMEN AND CHILDREN.

1. Give diagnosis and treatment of cystocele. 2. What are the indications for curetting the uterus? Describe your procedure in this operation. 3. What is dysmenorrhea? Give causes and treatment. 4. Give causes, diagnosis and treatment of prolapse of the uterus. 5. Give causes, diagnosis and treatment of acute salpingitis. 6. How do you treat constipation in infants? 7. Give diagnosis and treatment of scarlet fever. 8. Give your method of feeding infants deprived of mother's milk. 9. How would you treat a case of dysentery in children? 10. What is stomatitis? Give varieties and treatment.

NERVOUS DISEASES.

1. Give the general causes and reflex cause of neuralgia. 2. Differentiate between: (a) Neuralgia and the headache of anemia; (b) neuralgia and osteocopic pains; (c) neuralgia and clavus hystericus. 3. What effect has idleness on epileptics? Does labor aggravate the trouble? State your advice as to marriage to those who become epileptic at puberty. What treatment is effective? 4. What is chorea? Give its etiology, pathology, diagnosis, prognosis treatment. 5. What are the causes of paralysis and how many kinds are there? What is the origin of hemiplegia? Paralysis follows what infectious diseases?

STATE BOARD STATISTICS FOR 1907.

The Annual Presentation of the Results of State Board Examinations with Analyses and Deductions.

On pages 1848 to 1863 will be found four tables, A, B, C and D, giving in detail the results of the various state medical license examinations held during 1907. The reports from Oklahoma, where the recent transition into statehood has caused a temporary confusion in medical matters, did not contain sufficient data to permit of their use in these tables, otherwise our returns are complete.

These tables have been arranged so that reading from left to right gives the results by colleges, showing how many graduates appeared for examination in each state and whether they passed or failed, as well as the total number examined during the year, the number who passed, the number who failed, the percentage of failures and the number of states in which graduates of each school appeared for examination. Reading from above downward gives the results by states, showing the number registered and rejected from each college, the total number examined, the total number registered, the total number rejected and the percentage of rejections. The fact that the majority of graduates take the license examination in the state where the college is located is shown by the dark diagonal zone passing from the left upper to the right lower corner of each table, made by the grouping of figures. These tables are worthy of much careful study and many important deductions are possible.

GRADUATES OF ALL YEARS EXAMINED IN 1907.

Table A shows the results for all candidates who took examinations during the year regardless as to the years in which they graduated. This shows that altogether 7,271 were examined last year, as compared with 8,035 in 1906 and 7,170 in 1905. Of those examined, 21.3 per cent. failed, as compared with 20.7 per cent. in 1906, 20.8 per cent. in 1905 and 19.3 per cent. in 1904. There were 146 of the medical colleges in the United States which had graduates examined. Foreign graduates were examined in 27 states, the total being 155. The largest number examined in any state was 73 in New York, doubtless because that state has the leading port of immigration. Graduates of Canadian schools were examined in 28 states, more appearing naturally in the border line states. Nongraduates were examined in nine states, the largest number, 182, appearing in Mississippi, Tennessee coming second with 140. Another line in the table shows results for graduates of miscellaneous colleges which are no longer in existence.

GRADUATES OF 1907 EXAMINED DURING 1907.

Table B gives the results for the graduates of 1907 who were examined during the year by state boards and shows that 4,121 or 56.7 per cent. of all candidates examined during the year graduated in 1907. Educational statistics show that the medical colleges of the United States graduated 4,980 students last year, therefore about 80.7 per cent. of all 1907 graduates took examinations for license during the year. In some of the states graduates in medicine are allowed to serve their hospital interneships without first becoming licensed practitioners, which doubtless accounts for some of the remaining 20 per cent. Of those examined 461 or 11.2 per cent. failed. An analysis of this table shows that of all the 1907 graduates examined 2,492 or 65.9 per cent. were examined in the states wherein the colleges from which they graduated were located. This shows that states which contain low grade colleges are not only responsible for the illy prepared output of such colleges, but are the recipients of the greater portion of such graduates.

RECENT GRADUATES EXAMINED DURING 1907.

Table C gives the results for graduates of 1902 to 1907 inclusive which were examined during 1907. It includes, therefore, the figures given in Table B. This table is particularly important since it deals with recent graduates and is, therefore, the fairest basis for comparisons between colleges. Any classifications of medical colleges from the standpoint of failures at state board examinations should be based on this table. Of all candidates examined in 1907, 5,922 or 81.4 per cent. were recent graduates, and of this number 15.1 per cent. failed as compared with 21.3 per cent. for all candidates.

OLD PRACTITIONERS EXAMINED IN 1907.

Table D is interesting because it shows the results for candidates who graduated in 1901 or previously. The total number examined was 675 or 9.3 per cent. of all candidates examined, as compared with 793 in 1906 and 690 in 1905. This year, of those examined, 187 or 27.7 per cent. failed, as compared with 15.1 per cent. of failures for recent graduates. This total should decrease each year as advances are made in reciprocity. As a rule, the states examining the largest numbers are those which do not reciprocate with other states. A comparison with Table N will be of interest in this connection.

COMPARISON WITH PREVIOUS YEARS.

A study of the totals and percentages as compared with previous years is of interest. The totals of those examined show a decrease from last year, while the percentage of failures is somewhat higher.

COMPARISON WITH PREVIOUS YEARS (TABLES A, C AND D).

Year.	Total Examined.	Examined—Passed.	Examined—Failed.	Percentage Failed.	Recent Grads. Examined.	Percentage Failed.	Older Pract. Examined.	Percentage Failed.	Non-Grnds. Examined.	Percentage Failed.	Regist'd Without Written Examination.	Total. Registered.
1904	7035	5672	1363	19.3	4773	14.1	579	29.7	515	52.6	999	6671
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6368	1667	20.7	6520	16.4	793	27.1	703	51.3	1497	7865
1907	7271	5723	1548	21.3	5922	15.1	675	27.7	674	69.6	1425	7149

Other deductions from the large tables have been made and are presented in Tables E to N which are worthy of careful study.

STUDY OF COLLEGES BY STATE GROUPS.

Table E is based on the first four large tables and gives data regarding the group of colleges located in each state. It shows what states are furnishing the largest numbers of physicians and the failure percentages show what kind of training these colleges are furnishing, so far as may be judged from the failures of their graduates before state boards. By comparing the percentages of the first column with the other columns it can be seen whether there has been any reduction in failures

TABLE E.—COLLEGES GROUPED BY STATES.
Showing Number Examined and Percentage of Failures.

Colleges of	Graduates. Of 1907. Number Examined.	Of 1907. Per cent. Failed.	Of 1902 to 1907. Number Examined.	Of 1902 to 1907. Per cent. Failed.	Of 1901 and previous. Number Examined.	Of 1901 and previous. Per cent. Failed.	Of all years. Number Examined.	Of all years. Per cent. Failed.	Rank according to number examined.	Rank according to success at examinations.
Alabama	40	12.5	48	12.5	3	0.	51	11.8	23	15
Arkansas	1	0.	2	0.	1	0.	3	0.	29	1
California	76	18.4	108	25.0	9	22.2	117	24.8	16	26
Colorado	38	2.6	51	3.9	6	0.	57	3.5	22	2
Connecticut	17	0.	39	0.	.....	.....	39	0.	25	1
Dist. of Columbia	81	19.7	160	23.1	9	22.2	169	23.1	11	24
Georgia	102	5.9	114	8.8	2	0.	116	8.6	17	11
Illinois	487	7.4	675	10.8	77	26.0	752	12.4	1	16
Indiana	106	3.8	118	8.5	2	50.0	120	9.2	15	12
Iowa	116	7.8	129	10.1	19	47.4	148	14.9	12	20
Kansas	43	2.3	45	2.2	2	50.0	47	4.3	24	4
Kentucky	149	16.1	226	21.7	26	34.6	252	23.0	7	23
Louisiana	105	8.6	120	12.5	5	20.0	125	12.8	14	17
Maine	16	0.	20	0.	5	20.0	25	4.0	28	3
Maryland	304	23.7	486	25.5	39	18.0	525	25.0	4	27
Massachusetts	121	8.3	218	9.6	20	15.0	238	10.1	8	13
Michigan	140	2.1	171	4.1	20	35.0	191	7.3	10	8
Minnesota	53	17.0	101	18.8	8	12.5	109	18.3	17	21
Mississippi	31	45.2	31	45.2	.....	.....	31	45.2	26	31
Missouri	340	14.4	448	22.8	40	40.0	488	24.2	6	25
Nebraska	76	18.4	92	19.6	2	0.	94	19.1	18	22
New Hampshire	9	0.	23	4.4	8	12.5	31	6.5	26	6
New York	376	2.9	559	2.7	45	26.7	604	4.5	3	5
North Carolina	55	23.6	88	30.7	2	0.	90	30.0	19	29
Ohio	163	2.5	201	6.5	32	18.7	233	8.2	9	10
Oregon	41	46.3	57	45.6	1	0.	58	44.8	21	30
Pennsylvania	421	5.0	577	5.9	64	18.7	641	7.2	2	7
South Carolina	19	15.8	25	16.0	4	0.	29	13.8	27	18
Tennessee	313	23.3	461	28.0	40	32.5	501	28.3	5	28
Texas	49	8.2	64	14.1	.....	.....	64	14.1	20	19
Vermont	30	13.3	58	13.8	6	16.7	64	14.1	20	19
Virginia	101	6.9	137	10.2	7	14.3	144	10.4	13	14
Wisconsin	44	6.8	51	7.8	.....	.....	51	7.8	23	9
Totals	4063	11.2	5703	14.6	504	25.0	6207	15.4	.....	.....

This table gives data relating to the group of colleges in each state. For example, it shows that of all the medical schools in New York 604 graduates of various years were examined by state boards during 1907, of which number 4.5 per cent. failed. Of the 559 who graduated in recent years, however (1902 to 1907 inclusive), only 2.7 per cent. failed, while of the 45 who graduated previous to 1902, 26.7 per cent. failed.

The fifth column gives the rank of each state group of colleges according to the number of applicants. The Illinois group of colleges leads, having 752 graduates examined by state boards during 1907, followed by Pennsylvania with 642, New York with 604, Maryland with 525, and Tennessee with 501.

The sixth column gives the rank of each state group of colleges according to the success of the graduates at state board examinations. It is interesting to compare the figures of these two last columns. While the Illinois group ranks first according to the number examined it ranks sixteenth in the success of its graduates at examinations. While Pennsylvania ranks second as to the number examined, it ranks seventh as to the success of the graduates.

in recent years. Of the 33 states having medical colleges, 18 furnished 100 or more candidates examined. Of these 18 groups of colleges, 12 had failure percentages above 10 per cent. and six had over 20 per cent. of failures. The highest failure percentage was obtained by the Mississippi group. Of the states having 100 or more examined, however, the highest failure percentage was obtained by the Tennessee group. Other deductions are given with the table.

CAUTIONS IN FORMING CONCLUSIONS.

In making comparisons on the basis of these statistics several factors should be carefully considered. The number examined is important since, if all other conditions are equal, the larger number of graduates examined gives the more accurate finding. But other conditions are seldom equal. The number of different states in which a school's graduates have been examined is important. The larger this number, the more accurate will be the conclusions. Again, the character of the boards making the examination and the methods employed by them are important factors to be considered since some boards mark severely, while others, which is especially true of partisan boards, may be most lenient. Finally in this connection it should be stated that the character of the license examination as usually conducted at the present time is such that graduates of colleges operated largely on quiz-class methods may be most successful in passing them. Therefore, the statistics herewith presented should be taken only as a part of an investigation of medical schools although it is an important part.

STUDY OF LARGER COLLEGES.

Table F is also based upon the first four tables and gives the results of state board examinations as they affect the 48 largest medical colleges. Although these schools represent less than one-third of all medical colleges in the United States, they furnished about 60 per cent. of the candidates for license. Of these colleges, even with the graduates of 1907, many show extremely high failure percentages. Of the 12 colleges having 100 or more examined, three stand out prominently because of high failure percentages. On the whole, however, the failures were less for these larger schools than in previous years, being 13.9 per cent. last year, as compared with 17.3 per cent. in 1906 and 18.3 per cent. in 1905.

Deducting the total for the larger schools from the total of all graduates examined, leaves 2,003 candidates for the remaining 98 smaller colleges. Here this year a remarkable decrease in failures is seen, the percentage being 13.6 per cent. as compared with 21.3 per cent. in 1906 and 28.9 per cent. in 1905.

COMPARISON WITH PREVIOUS YEARS (FROM TABLE F).

Year.	Schools Having Candidates.	Total Candidates.	Percentage Failed.	Schools, 100 or more candidates.	Total Candidates.	Percentage Failed.	Schools, 50 or more candidates.	Total Candidates.	Percentage Failed.	Schools less than 50 candidates.	Total Candidates.	Percentage Failed.	Foreign and Undergrad. Candidates.	Percentage Failed.
1904	149	6241	16.4	14	2271	11.7	42	4088	14.0	107	2153	21.0	794	43.1
1905	153	6411	18.3	14	2350	12.4	51	4893	15.1	102	1518	28.9	759	41.1
1906	146	6938	17.3	16	2504	14.5	50	4885	15.7	96	2043	21.3	1097	42.5
1907	146	6207	13.8	12	1626	12.7	48	4204	13.9	98	2003	13.6	1064	55.5

Besides the graduates of the medical colleges of the United States, 1,064 candidates were examined, made up of foreign college graduates, graduates of miscellaneous colleges and non-graduates.

RESULTS IN HOME STATES AND ELSEWHERE.

Table G is of much interest because it shows what portion of the candidates from each college took their examinations in the state where the college was located and what portion went elsewhere. Of the 5,703 recent graduates examined by state boards in 1907, 3,307 or 58 per cent. took their license examinations in the home state. Of this number, 10.6 per cent. failed, while of those who went to other states 20 per cent. failed. The table allows a similar comparison of percentages to be

made for each college as well as for each state group of colleges, the latter being shown in heavy faced type. A further description appears with the table.

TOTAL RESULTS FOR FIVE YEARS.

Table H shows, so far as reports were obtainable, the number registered and the number rejected in each state for each of the past five years. It shows what would be expected that the states having the largest numbers of medical graduates examine the largest number of physicians. In 1903 several states registered all or the great majority of their applicants on the presentation of satisfactory credentials without written examination. Even in 1907, in one or two states the laws requiring examination of all applicants did not become effective until the middle of the year. This table shows only those registered by examination. Another table (M) shows the total registration by all methods.

CLASSIFICATION OF COLLEGES.

Tables I, J, K and L give a classification of the medical colleges of the United States on the basis of the failures of their graduates at state board examinations during the past year. This classification is based upon the examination of *recent graduates* as shown in Table C. In forming definite conclusions, the cautions already given should be observed, of noting the number examined, the number of states in which representatives appeared and the character of the boards making the examination. To form a more exact judgment one should compare the percentage of failures received by any college this year with those received in the classifications published in previous years.

Table I gives a list of 64 colleges which obtained failure percentages below 10 per cent., 19 of which had no failures whatsoever and 39 had only 5 per cent. or less. The failure percentage for the entire group was 4.5. Table J shows 27 colleges whose failure percentages were between 10 and 20 per cent., of which number 14 had percentages below that for the group which was 14.4. Table K includes the 39 colleges having failure percentages of 20 per cent. and above, of which number 25 had above 30 per cent., 12 had above 40 per cent. and nine had percentages of 50 per cent. or above. The three highest percentages of failures was 86.4, 80.0 and 70.4. The percentage

TABLE F.—COLLEGES HAVING 50 OR MORE EXAMINED.

TABLE SHOWS TOTAL NUMBER EXAMINED, PERCENTAGE OF FAILURES AND NUMBER OF STATES IN WHICH EACH COLLEGE HAD REPRESENTATIVES

Name of College.	Graduates all Years.			Graduates. 1902-1907.			Graduates 1901 and Prev.			Graduates of 1907.			Marginal Number.
	No. Examined.	Per cent. Failed.	No. States.	No. Examined.	Per cent. Failed.	No. States.	No. Examined.	Per cent. Failed.	No. States.	No. Examined.	Per cent. Failed.	No. States.	
College of Physicians and Surgeons, Chicago	176	9.1	24	166	9.0	24	10	10.0	7	123	4.1	16	27
Northwestern University, Chicago	175	2.9	21	159	1.9	19	16	12.5	11	125	1.6	13	33
University of Pennsylvania	169	3.0	23	149	0.7	22	20	20.0	12	102	0.	11	117
Jefferson Medical College	168	9.5	30	151	7.3	27	17	29.4	12	103	7.8	15	119
Baltimore Medical College	144	37.5	22	134	37.1	22	10	40.0	5	88	35.2	19	56
College of Physicians and Surgeons, New York	139	2.9	21	127	1.6	16	12	16.7	9	58	1.7	6	93
Rush Medical College	131	5.3	20	104	1.9	17	27	18.5	14	55	0.	8	33
Medico-Chirurgical College, Philadelphia	111	7.2	15	107	6.5	14	4	25.0	4	79	2.5	6	121
Meharry Medical College	106	42.5	20	103	43.7	19	3	0.	2	57	31.6	12	129
Tulane University	103	4.9	8	98	4.1	6	5	20.0	4	90	3.3	5	54
Harvard University	102	4.9	18	91	3.3	15	11	18.1	8	48	4.2	8	66
Barnes Medical College	102	35.3	18	93	35.5	15	9	33.3	8	65	21.5	8	80
Johns Hopkins Medical School	95	2.1	22	91	2.2	19	4	0.	4	49	4.1	11	59
Memphis Hospital Medical College	95	24.2	10	85	25.9	9	10	10.0	4	50	22.0	6	130
University of Maryland	94	20.2	22	88	20.5	19	6	16.7	6	56	19.6	11	61
University and Bellevue Hospital Medical College	94	5.3	13	79	2.5	9	15	20.0	9	54	1.9	4	99
University of Louisville	93	16.1	22	88	14.8	21	5	40.0	5	61	8.2	15	52
Long Island College Hospital	93	8.6	10	88	6.8	7	5	40.0	5	64	7.8	4	96
College of Physicians and Surgeons, Baltimore	90	10.0	20	80	11.2	17	10	0.	8	55	9.1	11	58
George Washington University	85	24.7	15	83	25.3	15	2	0.	2	45	24.4	8	16
University of Michigan, College of Medicine	83	4.8	21	71	1.4	19	12	25.0	7	52	0.	5	70
University Medical College, Kansas City	85	27.1	16	76	25.0	13	9	44.4	7	60	21.7	4	76
Indiana Medical College	81	9.9	7	80	8.7	7	1	100.0	1	70	2.9	4	36
Cornell University Medical College	81	0.	10	80	0.	10	1	0.	1	60	0.	8	94
Detroit College of Medicine	80	10.0	8	76	7.9	6	4	50.0	3	67	4.5	2	68
Washington University, St. Louis	78	10.3	13	74	9.5	11	4	25.0	4	59	6.8	4	85
Hahnemann Medical College, Philadelphia	77	6.5	14	63	4.8	11	14	14.3	9	54	3.7	8	118
Tufts College Medical School	76	10.5	11	72	9.7	10	4	25.0	4	48	6.3	3	67
St. Louis University	75	9.3	14	75	9.3	14	.....	.....	.....	59	3.4	9	81
University of Minnesota, College of Medicine	74	12.2	8	68	11.8	5	6	16.7	4	37	10.8	2	72
University of Nashville	71	18.3	13	68	17.6	13	3	33.3	3	51	13.7	11	126
St. Louis College of Physicians and Surgeons	67	37.3	15	56	37.5	11	11	36.3	8	41	26.9	7	82
State University of Iowa, College of Medicine	66	7.6	8	62	4.8	8	4	50.0	3	59	5.1	6	43
Western Pennsylvania Medical College	66	15.2	10	61	16.4	5	5	0.	5	51	13.7	3	122
University of Buffalo	65	4.6	7	60	0.	4	5	60.0	4	44	0.	3	101
Hahnemann Medical College, Chicago	64	20.3	18	51	15.7	14	13	38.4	9	36	8.3	7	28
University of Vermont	64	14.1	13	58	13.8	10	6	16.7	3	30	13.3	5	141
Atlanta College of Physicians and Surgeons	56	7.1	8	54	7.4	7	2	0.	2	49	6.1	6	19
Howard University, Washington	55	23.6	18	51	41.2	16	4	25.0	4	28	17.9	11	18
University of Virginia	55	16.4	19	54	16.7	19	1	0.	1	30	16.7	10	144
Kentucky School of Medicine	54	29.6	15	45	31.1	13	9	22.2	6	31	29.0	8	48
Starling-Ohio Medical College	54	11.1	9	51	9.8	8	3	33.3	3	40	0.	3	112
Hospital College of Medicine, Louisville	53	26.4	16	48	25.0	13	5	40.0	5	31	16.1	9	47
Chicago College of Medicine and Surgery	52	17.3	11	52	17.3	11	.....	.....	.....	43	14.0	8	35
University of Tennessee	52	23.1	9	44	15.9	8	8	62.5	4	36	11.1	6	128
Chattanooga Medical College	52	32.7	12	47	29.8	12	5	60.0	3	30	26.7	8	133
University College of Medicine, Richmond	51	7.8	11	46	6.5	9	5	20.0	4	44	4.5	7	143
Bennett College of Eclectic Medicine and Surgery	50	26.0	15	47	23.4	14	3	66.7	3	39	12.8	9	25
Total Examined, Percentage and Averages	4204	13.9	15	3854	12.9	13	350	25.4	5	2706	9.5	7	

This table is especially interesting since it gives data relating to the 48 larger medical colleges arranged according to the number of graduates examined. This allows of comparisons between colleges having classes of nearly equal size.

Of the 12 colleges having 100 or more examined, 9 have failure percentages of only 9.5 or less, while the other 3 stand out prominently with the large failure percentages of 35.3, 37.5 and 42.5. This marked difference holds even in respect to graduates of 1907.

Of the 36 colleges having between 50 and 100 graduates examined, 12 had failure percentages less than 10; 12 had failure percentages between 10 and 20, and 12 had failure percentages above 20, the highest reaching 37.3.

The average percentages of failures for these larger colleges, for graduates of 1901 and previous years, was 25.4; for graduates of 1902 to 1907, inclusive (recent graduates), 12.9; for graduates of 1907, 9.5; and for graduates of all years, 13.9. Of the 48 colleges, 27 obtained failure percentages below the average. Of the 6,207 college graduates examined by state boards in 1907, these larger schools furnished 4,204, or 67.7 per cent.

TABLE G.—COMPARISON OF RESULTS IN HOME STATES AND ELSEWHERE. BASED ON TABLE C.

College.	Total Examined.	Results in Home State. Passed.	Failed.	Per cent. Failed.	Results in Other States. Passed.	Failed.	Per cent. Failed.
ALABAMA ..... + 15.0	48	36	4	10.0	6	2	25.0
Birmingham Medical College..	14	10	2	16.7	2	0	0.
Medical College of Alabama...	34	26	2	7.1	4	2	50.0
ARKANSAS..... —	2	1	0	0.	1	0	0.
University of Arkansas.....	2	1	0	0.	1	0	0.
CALIFORNIA..... — 5.8	108	69	24	25.8	12	3	20.0
Cooper Medical College.....	27	19	7	26.9	1	0	0.
University of California.....	20	17	1	5.6	1	1	50.0
California Medical College.....	5	1	1	50.0	1	2	66.7
Hahnemann Medical College..	2	2	0	0.	.....	.....	.....
Coll. of P. and S., San Fran..	14	6	7	53.8	1	0	0.
Oakland Coll. of M. and S...	2	2	0	0.	.....	.....	.....
Univ. of Southern California..	35	21	7	25.0	7	0	0.
Coll. of P.and S.,Los Angeles	3	1	1	50.0	1	0	0.
COLORADO..... + 11.8	51	34	0	0.	15	2	11.8
Denver and Gross.....	27	15	0	0.	10	2	16.7
Westminster Univ. Med. Coll.	5	5	0	0.	.....	.....	.....
University of Colorado.....	19	14	0	0.	5	0	0.
CONNECTICUT..... —	39	23	0	0.	16	0	0.
Yale Medical College..... —	39	23	0	0.	16	0	0.
DIST. OF COLUMBIA.. — 14.2	160	48	27	36.0	75	10	11.8
George Washington Univ.....	83	31	16	34.0	31	5	14.3
Georgetown University.....	26	10	4	28.6	12	0	0.
Howard University	51	7	7	50.0	32	5	13.5
GEORGIA..... + 10.1	114	78	5	6.0	26	5	16.1
College of P. and S., Atlanta..	54	29	3	9.4	21	1	4.5
Georgia Eclectic Med. Coll....	12	11	1	8.3	.....	.....	.....
University of Georgia.....	27	21	0	0.	3	3	50.0
Atlanta School of Medicine....	20	16	1	5.9	2	1	33.3
Internat. Med. Miss. Coll....	1	1	0	0.	.....	.....	.....
ILLINOIS..... + 9.8	675	391	30	7.1	211	43	16.9
American Medical Miss. Coll..	12	3	0	0.	8	1	11.1
Bennett Medical College.....	47	25	3	10.7	11	8	42.1
College of Med. and Surgery..	2	1	1	50.0	.....	.....	.....
Coll. of P. and S., Chicago....	166	96	3	3.0	55	12	17.9
Hahnemann Med. C., Chicago	51	25	5	16.7	18	3	14.3
Hering Medical College.....	9	5	3	37.5	1	0	0.
Illinois Medical College.....	25	12	1	7.7	9	3	25.0
Jenner Medical College.....	25	16	6	27.3	2	1	33.3
Northwestern University.....	159	105	0	0.	51	3	5.6
Rush Medical College.....	104	59	0	0.	43	2	4.4
National Medical University..	23	13	4	23.5	1	5	83.3
Chicago Coll. of M. and S....	52	31	4	11.4	13	5	29.4
INDIANA..... + 20.6	118	100	7	6.5	8	3	27.3
Indiana Medical College.....	80	67	5	6.9	6	2	25.0
Physio-Med. of Indiana.....	8	6	0	0.	1	1	50.0
Eclectic Medical Coll. of Ind..	5	3	2	40.0	.....	.....	.....
Indiana University	25	24	0	0.	1	0	0.
IOWA..... + 17.7	128	101	8	7.3	15	5	25.0
Drake University.....	16	14	1	6.7	1	0	0.
Keokuk Med. C. of P. and S.	36	28	3	9.7	5	0	0.
Sioux City Coll. of Medicine..	11	5	3	37.5	0	3	100.0
University of Iowa (H).....	4	3	0	0.	1	0	0.
University of Iowa (R).....	62	51	1	1.9	8	2	20.0
KANSAS..... + 5.9	45	28	0	0.	16	1	5.9
Kansas Medical College.....	14	14	0	0.	.....	.....	.....
University of Kansas.....	31	14	0	0.	16	1	5.9
KENTUCKY..... —0.7	226	35	10	22.2	142	39	21.5
Hospital Coll. of Medicine....	48	13	4	23.5	23	8	25.8
Kentucky School of Medicine.	45	4	3	42.9	27	11	28.9
Louisville Medical College.....	41	8	1	11.1	26	6	18.7
Louisville National Med. Coll.	2	0	1	100.0	0	1	100.0
Southern Homeo. Med. Coll..	2	.....	.....	.....	1	1	50.0
University of Louisville.....	88	10	1	9.1	65	12	15.6
LOUISIANA..... +34.7	120	80	1	1.2	25	14	35.9
Flint Medical College.....	22	11	1	8.3	0	10	100.0
Tulane University	98	69	0	0.	25	4	13.8
MAINE ..... —	20	16	0	0.	4	0	0.
Medical School of Maine.....	20	16	0	0.	4	0	0.
MARYLAND..... + 4.5	486	98	28	22.2	264	96	26.7
Baltimore Medical College.....	134	9	7	43.8	75	43	36.4
Baltimore University.....	22	0	3	100.0	3	16	84.2
College of P. & S., Baltimore.	80	10	1	9.1	61	8	11.6
Johns Hopkins Med. School..	91	31	1	3.1	58	1	1.7
Atlantic Med. Coll.....	12	10	0	0.	2	0	0.
University of Maryland.....	88	32	7	18.0	38	11	22.4
Woman's Medical College.....	11	6	1	14.3	4	0	0.
Maryland Medical College....	48	0	8	100.0	23	17	42.5
MASSACHUSETTS..... —0.7	218	118	13	9.9	78	8	9.2
Boston University	24	11	1	8.3	12	0	0.
College of P. and S., Boston..	31	9	7	43.8	12	3	20.0
Harvard University	91	50	1	2.0	38	2	5.0
Tufts Medical College.....	72	48	4	7.7	17	3	15.0
MICHIGAN..... + 9.6	171	134	3	2.2	30	4	11.8
Detroit College of Medicine....	76	67	3	4.3	3	3	50.0
Detroit Homeo. Med. College.	9	9	0	0.	.....	.....	.....
University of Michigan (R)....	71	48	0	0.	22	1	4.4
University of Michigan (H)....	15	10	0	0.	5	0	0.
MINNESOTA..... —16.9	101	51	17	25.0	31	2	6.1
University of Minnesota (R)..	68	37	7	15.9	23	1	4.2
Hamline University.....	33	14	10	41.7	8	1	11.1
MISSISSIPPI..... + 5.2	31	16	13	44.8	1	1	50.0
Mississippi Med. Coll.....	31	16	13	44.8	1	1	50.0
MISSOURI..... —9.5	448	134	53	28.3	212	49	18.8
Univ. M. C., Kansas City.....	76	29	9	23.7	28	10	26.3
Kansas City Hahne. M. C.....	10	1	0	0.	8	1	11.1
Eclectic Medical University....	10	1	0	0.	8	1	11.1
Ensworth Central Med. Coll..	31	5	2	28.6	21	3	12.5
Barnes Medical College.....	93	24	14	36.8	36	19	34.5
St. Louis University.....	75	26	5	16.1	42	2	4.5
Coll. of P. and S., St. Louis..	56	8	12	60.0	27	9	25.0
American Medical College.....	11	4	5	55.6	0	2	100.0
Homeo. College of Missouri...	9	3	1	25.0	5	0	0.
Washington University.....	74	32	5	13.5	35	2	5.4
University of Missouri.....	3	1	0	0.	2	0	0.
NEBRASKA..... + 7.2	92	49	10	17.0	25	8	24.2
University of Nebraska.....	24	20	0	0.	4	0	0.
Creighton Medical College.....	45	19	5	20.8	14	7	33.3
Lincoln Medical College.....	19	8	4	33.3	6	1	14.3
Nebraska Coll. of Med.....	4	2	1	33.3	1	0	0.
NEW HAMPSHIRE..... — 14.3	23	6	1	14.3	16	0	0.
Dartmouth Medical College....	23	6	1	14.3	16	0	0.
NEW YORK..... + 3.7	559	480	11	2.2	64	4	5.9
Albany Medical College.....	43	39	2	4.9	2	0	0.
Coll. of P. and S., New York.	127	106	1	0.9	19	1	5.0
Cornell University.....	80	68	0	0.	12	0	0.
Eclectic Med. Coll., New York	11	11	0	0.	.....	.....	.....
Long Island College Hospital.	88	76	5	6.2	6	1	14.3
New York Homeo. Med. Coll..	37	28	1	3.4	7	1	12.5
N. Y. Woman's Med. Coll....	5	5	0	0.	.....	.....	.....
University and Bellevue M. C.	79	67	1	1.5	10	1	9.1
Syracuse University.....	29	26	1	3.7	2	0	0.
University of Buffalo.....	60	54	0	0.	6	0	0.
NORTH CAROLINA..... + 28.7	88	34	6	15.0	27	21	43.7
Leonard Medical College.....	49	11	1	8.3	21	16	43.2
North Carolina Med. College..	25	13	4	23.5	3	5	62.5
University of North Carolina.	14	10	1	9.1	3	0	0.
OHIO..... + 8.4	201	139	8	4.1	49	7	12.5
Western Reserve University...	11	10	0	0.	1	0	0.
Cleveland Coll. of P. and S...	16	13	1	7.2	2	0	0.
Cleveland Homeo. Med. Coll..	13	5	1	16.7	7	0	0.
Eclectic Medical Institute.....	33	13	1	7.3	16	3	15.8
Medical College of Ohio.....	38	29	0	0.	8	1	11.1
Pulte Medical College.....	6	5	0	0.	1	0	0.
Miami Medical College.....	25	17	0	0.	7	1	12.5
Starling-Ohio Medical College.	51	39	3	7.1	7	2	22.2
Toledo Medical College.....	8	8	0	0.	.....	.....	.....
OREGON..... —47.3	57	20	25	55.6	11	1	8.3
University of Oregon.....	30	14	7	33.3	9	0	0.
Willamette University	27	6	18	75.0	2	1	33.3
PENNSYLVANIA ..... + 1.6	577	341	19	5.3	202	15	6.9
Temple College	6	5	0	0.	1	0	0.
University of Pennsylvania...	149	85	0	0.	63	1	6.2
Hahn. M. C. of Philadelphia..	63	41	1	2.4	19	2	9.5
Jefferson Medical College.....	151	71	6	7.8	69	5	6.8
Woman's M. C. Pennsylvania.	40	14	0	0.	24	2	7.7
Medico-Chirurgical Coll., Pa..	107	79	3	3.7	21	4	16.0
Western Pennsylvania M. C..	61	48	9	16.4	5	1	16.7
SOUTH CAROLINA..... +5.0	25	17	3	15.0	4	1	20.0
Med. Coll. of South Carolina.	25	17	3	15.0	4	1	20.0
TENNESSEE..... + 24.6	461	99	10	9.2	233	119	33.8
Tennessee Medical College.....	19	12	4	25.0	1	2	66.7
Knoxville Medical College.....	5	0	1	100.0	1	3	75.0
University of Nashville.....	68	11	0	0.	45	12	21.1
Vanderbilt University	32	18	0	0.	14	0	0.
University of Tennessee.....	44	25	0	0.	12	7	36.8
Meharry Medical College.....	103	12	3	20.0	46	42	47.7
Memphis Hosp. Med. Coll....	85	9	0	0.	54	22	28.9
College of P. and S., Memphis	14	4	0	0.	5	5	50.0
University of South.....	41	2	0	0.	28	11	28.3
Chattanooga Medical College..	47	6	2	25.0	27	12	30.8
University of West Tennessee.	3	.....	.....	.....	0	3	100.0
TEXAS..... + 25.1	64	45	4	8.2	10	5	33.3
Fort Worth University.....	9	8	1	11.1	.....	.....	.....
University of Texas.....	20	20	0	0.	.....	.....	.....
Baylor University	13	8	2	20.0	3	0	0.
Gate City Medical College.....	9	0	1	100.0	4	4	50.0
Southwestern University	10	9	0	0.	1	0	0.
Coll. of P. and S., Dallas.....	3	.....	.....	.....	2	1	33.3
VERMONT ..... + 1.0	58	26	4	13.3	24	4	14.3
University of Vermont.....	58	26	4	13.3	24	4	14.3
VIRGINIA..... + 2.0	137	68	7	9.3	55	7	11.3
Medical College of Virginia...	37	24	0	0.	11	2	15.4
Univ. College of Medicine....	46	24	1	4.0	19	2	9.5
University of Virginia.....	54	20	6	23.1	25	3	10.7
WISCONSIN ..... + 5.5	51	40	3	7.0	7	1	12.5
Milwaukee Medical College....	27	22	1	4.4	3	1	25.0
Coll. of P. and S., Wisconsin.	24	18	2	10.0	4	0	0.
Totals..... + 9.4	5703	2955	352	10.6	1916	480	20.0

In this table the number of graduates examined in the state in which the college is located are grouped in one column, while graduates of that college examined in other states are in another column. This shows what is evidently a fact, that, as a rule, the graduates of a certain school have a much better chance of passing the examination in the state in which the school is located than they have elsewhere. This should always be considered in making comparisons between colleges. A college having an exceedingly low standard, by having its graduates all locate in the home state, may thus show a lower percentage of failures than a college of much higher grade which has graduates examined by several states.

The heavy-faced figures give the results by states. The first column of heavy-faced figures shows the differences between the percentages of home colleges and of colleges of other states. The plus sign indicates that colleges of other states have the larger percentage of rejections; the minus sign indicates that the home colleges have had the greater percentage rejected.

for all candidates from this group of colleges was 33.8. In Table L have been placed a number of colleges in regard to which data was insufficient to allow of fair comparsion. This list numbers 16, to which should be added two existing colleges, the Homeopathic Department of the University of Minnesota and the Physio-Medical College of Texas, for which no recent graduates were examined.

COMPARISON WITH PREVIOUS YEARS.

	Less than 10 Per cent.	10 to 20 Per cent.	Above 20. Per cent.	Unclassified.	Total.
1904	47	27	38	37	149
1905	45	22	40	46	153
1906	62	24	43	20	149
1907	64	27	39	18	148

A comparison of the totals of the classification of this year with those of former years shows a decided improvement. The first table contains 64 this year, as compared with 62 in 1906 and 45 in 1905.

TABLE H.—PHYSICIANS EXAMINED BY STATE BOARDS, 1903 TO 1907—INCLUSIVE.

State.	1903		1904		1905		1906		1907		Total Examined.	Registered.	Rejected.	Percentage Rejected.
	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.				
Alabama*	...	...	118	20	131	22	133	22	142	33	631	529	102	16.2
Arizona	...	...	28	7	35	7	35	4	29	2	147	127	20	13.6
Arkansas*	18	0	115	37	88	58	152	73	72	106	719	445	274	38.1
California	152	74	216	80	144	127	190	44	118	84	1,229	820	409	33.3
Colorado*	...	...	3	10	283	54	...	...	50	6	406	336	70	17.2
Connecticut	128	23	67	26	66	17	84	23	64	17	520	409	111	21.3
Delaware	7	4	10	1	20	8	11	1	4	2	68	52	16	23.5
Dist. of Col.	46	13	78	14	67	23	63	34	59	37	434	313	121	27.9
Florida	...	...	...	...	24	3	66	7	72	8	180	162	18	10.0
Georgia	73	12	110	4	...	...	164	5	139	22	529	486	43	8.1
Idaho	31	14	23	16	46	15	42	12	38	7	244	180	64	26.2
Illinois	559	35	728	34	759	36	748	69	580	52	3,600	3,374	226	6.3
Indiana	141	16	150	24	249	63	228	12	172	17	1,072	940	132	12.3
Iowa	273	40	238	52	205	30	166	29	146	26	1,205	1,028	177	14.7
Kansas	43	5	64	13	163	29	180	27	125	14	663	575	88	13.3
Kentucky	...	...	4	6	33	4	52	13	48	19	184	142	42	22.8
Louisiana	132	24	120	20	105	15	133	14	153	7	723	643	80	11.1
Maine	73	0	66	8	68	3	80	8	74	4	384	361	23	6.0
Maryland	102	40	121	66	120	75	112	44	139	41	860	594	266	30.9
Massachusetts*	263	43	320	77	274	63	270	120	226	118	1,774	1,353	421	23.7
Michigan	19	2	52	1	82	5	162	6	150	8	487	465	22	4.5
Minnesota	163	43	134	27	124	39	104	31	80	35	780	605	175	22.4
Mississippi*	17	8	119	130	113	138	156	144	157	191	1,175	502	611	52.1
Missouri*	...	...	...	...	...	...	249	193	186	86	714	435	279	39.1
Montana	...	...	21	10	31	17	24	25	34	14	176	110	66	37.5
Nebraska	...	...	93	7	87	29	58	25	68	14	351	306	75	19.7
Nevada	...	...	2	0	...	...	2	0	10	1	15	14	1	6.7
New Hamp.	29	4	33	9	15	5	34	17	19	11	176	130	46	26.1
New Jersey	...	...	76	20	55	17	80	13	73	15	349	284	65	18.6
New Mexico	...	...	9	2	...	...	...	...	5	3	19	14	5	26.3
New York	633	55	667	62	705	51	629	56	691	54	3,603	3,325	278	7.7
North Carolina	77	26	74	19	92	40	87	41	111	20	537	411	146	24.9
North Dakota	60	14	54	13	72	7	60	10	40	4	343	295	48	14.0
Ohio	98	6	236	13	213	8	222	16	179	9	1,000	948	52	5.2
Oklahoma	19	19	30	36	53	28	95	23	...	...	303	197	111	36.0
Oregon*	32	3	70	6	68	66	65	56	62	56	484	297	187	38.6
Pennsylvania	337	51	460	121	540	93	519	73	465	54	2,718	2,321	397	10.9
Rhode Island*	52	15	52	5	47	19	54	30	36	23	333	241	92	27.6
South Carolina	47	4	49	6	44	22	39	13	41	17	282	220	62	22.0
South Dakota	17	3	36	12	41	11	26	11	23	5	185	143	42	22.7
Tennessee*	78	6	166	107	86	35	150	96	133	140	997	613	384	38.5
Texas*	116	21	96	87	117	73	159	53	187	64	973	675	298	30.6
Utah	30	3	31	7	32	8	37	7	26	0	181	156	25	13.8
Vermont	42	4	54	1	43	1	35	0	40	7	227	214	13	5.7
Virginia	134	39	121	54	140	50	123	35	124	33	853	642	211	24.7
Washington	115	23	135	46	141	34	137	45	163	38	877	691	186	21.2
West Virginia	102	16	163	40	109	95	84	72	92	9	782	550	232	29.7
Wisconsin	54	7	60	7	95	5	52	2	62	5	349	323	26	7.4
Wyoming	...	...	...	...	12	1	12	3	7	5	40	31	9	22.5
Totals	5,027		7,035		7,596		8,035		7,271		34,964	...	...	...
Registered	4,312		5,672		6,042		6,368		5,723		...	28,117	...	...
Rejected	715		1,363		1,554		1,667		1,548		...	...	6,847	...
Percent. Reg.	14.2		19.4		20.5		20.7		21.3		...	...	...	19.6

This table gives the number of candidates registered by examination by each state during each of the last five years as well as the number rejected. The last four columns give the totals for the five years and the percentage rejected by each state.

Five states registered by examination over one thousand candidates, these being Illinois, New York, Pennsylvania, Massachusetts and Iowa. Missouri would doubtless be included in this list if reports could have been obtained for 1906 to 1905 inclusive.

The highest percentage of rejections was 52.1 in Mississippi, followed by Missouri, Tennessee and Arkansas. The states marked with an asterisk (*) included non-graduates among those examined, and for that reason would be expected to have higher percentages rejected.

The lowest failure percentages were in Michigan, 4.5; Ohio, 5.2; Vermont, 5.7; Maine, 6.0; Illinois, 6.3, and Nevada, 6.7.

TOTAL REGISTRATION IN 1907.

The tables thus far described have referred to candidates registered by examination only. Table M, however, shows the

TABLE I.—COLLEGES HAVING LESS THAN 10 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1907. BASED ON TABLE C.

College.	Total Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of States.
COLORADO.					
Denver and Gross College of Med.	27	25	2	7.5	12
Colorado School of Medicine	19	19	0	0.	5
CONNECTICUT.					
Yale Medical School	39	39	0	0.	8
GEORGIA.					
Atlanta College of Phys. and Surg.	54	50	4	7.4	7
Georgia Coll. of Eclec. Med. and Surg.	12	11	1	8.3	1
ILLINOIS.					
American Medical Missionary College	12	11	1	8.3	8
College of Phys. and Surg., Chicago	166	151	15	9.0	24
Northwestern Univ. Med. School	159	156	3	1.9	19
Rush Medical College	104	102	2	1.9	17
INDIANA.					
Indiana Medical College	80	73	7	8.7	7
Indiana University School of Med.	25	25	0	0.	2
IOWA.					
Drake University Coll. of Med.	16	15	1	6.3	2
Keokuk Med. Coll., Coll. of P. and S.	36	33	3	8.3	6
State University of Iowa, Coll. of Med.	62	59	3	4.8	8
KANSAS.					
Kansas Medical College	14	14	0	0.	1
University of Kansas, School of Med.	31	30	1	3.2	4
LOUISIANA.					
Tulane University, Medical Dept.	98	94	4	4.1	6
MAINE.					
Medical School of Maine	20	20	0	0.	4
MARYLAND.					
Johns Hopkins Medical School	91	89	2	2.2	19
Atlantic Medical College	12	12	0	0.	3
Woman's Medical College	11	10	1	9.1	4
MASSACHUSETTS.					
Boston University School of Med.	24	23	1	4.0	8
Harvard University Medical School	91	88	3	3.3	15
Tufts College Medical School	72	65	7	9.7	10
MICHIGAN.					
Detroit College of Medicine	76	70	6	7.9	6
Detroit Homeopathic Medical College	9	9	0	0.	1
University of Michigan, Coll. of Med.	71	70	1	1.4	19
Univ. of Michigan, Homeopathic Dept.	15	15	0	0.	5
MISSOURI.					
St. Louis University	75	68	7	9.3	14
Washington University	74	67	7	9.5	11
NEBRASKA.					
University of Nebraska Coll. of Med.	24	24	0	0.	4
NEW HAMPSHIRE.					
Dartmouth Medical College	23	22	1	4.4	6
NEW YORK.					
Albany Medical College	43	41	2	4.7	3
College of Physicians and Surgeons	127	125	2	1.6	16
Cornell University Medical College	80	80	0	0.	10
Eclectic Medical College of New York	11	11	0	0.	1
Long Island College Hospital	88	82	6	6.8	7
New York Homeopathic Medical Coll.	37	35	2	5.4	7
N. Y. Med. Coll. and Hosp. for Women	5	5	0	0.	1
Univ. and Bellevue Hosp. Med. Coll.	79	77	2	2.5	9
Syracuse University College of Med.	29	28	1	3.4	3
University of Buffalo, Med. Dept.	60	60	0	0.	4
NORTH CAROLINA.					
Univ. of North Carolina, Med. Dept.	14	13	1	7.2	4
OHIO.					
Western Reserve Univ., Med. Dept.	11	11	0	0.	2
Cleveland College of Phys. and Surg.	16	15	1	6.3	3
Cleveland Homeopathic Medical Coll.	13	12	1	7.7	4
Medical College of Ohio	38	37	1	2.6	7
Pulte Medical College	6	6	0	0.	2
Miami Medical College	25	24	1	4.0	8
Starling-Ohio Medical College	51	46	5	9.8	8
Toledo Medical College	8	8	0	0.	1
PENNSYLVANIA.					
Temple College of Medicine	6	6	0	0.	2
Univ. of Pennsylvania, Med. Dept.	149	148	1	0.7	22
Hahnemann Med. Coll. of Philadelphia	63	60	3	4.8	11
Jefferson Medical College	151	140	11	7.3	27
Woman's Med. Coll. of Pennsylvania	40	38	2	5.0	9
Medico-Chirurgical College of Phila.	107	100	7	6.5	14
TENNESSEE.					
Vanderbilt University, Med. Dept.	32	32	0	0.	9
TEXAS.					
University of Texas, Medical Dept.	20	20	0	0.	1
Southwestern University Med. Coll.	10	10	0	0.	2
VIRGINIA.					
Medical College of Virginia	37	35	2	5.4	5
University College of Medicine	46	43	3	6.5	9
WISCONSIN.					
Milwaukee Medical College	27	25	2	7.5	4
Wisconsin College of Phys. and Surg.	24	22	2	8.3	3
Totals	3095	2954	141	4.5	

total number registered in each state, including those registered by examination, by reciprocity and under various exemption clauses. Above 100 were registered in 29 different states, above 200 in 12 and above 400 in three, the largest numbers being registered in New York with 760, in Illinois with 615 and in Pennsylvania with 465. Nongraduates were registered in seven different states, the largest numbers being 81 in Mississippi, 42 in Tennessee and 33 in Arkansas.

Table N gives those registered without examination on presentation of satisfactory credentials which included a license issued by some other state. This is usually described by the term "reciprocity," which conveys the idea that the state which accepts the license of another must be granted the same courtesy by the state issuing the original license. The term does not well describe this method of registration, however, since several states will accept such credentials, if satisfactory, whether the state issuing the original license returns the favor or not. A further description appears beneath the table. Without the provision for reciprocity 989 physicians would have been compelled to undergo a second trying examination.

IN CONCLUSION.

Our endeavor in the publication of these statistics has been to give an absolutely fair presentation of facts as they exist. A knowledge of such facts is always beneficial and we trust this exposition of the results of the examination of applicants for license to practice medicine in the United States will help in the advancement of medical education in this country. We wish to acknowledge our indebtedness to the state licensing boards whose ready cooperation and complete reports have made the publication of these data possible.

TABLE J.—COLLEGES HAVING BETWEEN 10 AND 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1907. BASED ON TABLE C.

College.	Total. Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of States.
ALABAMA.					
Birmingham Medical College	14	12	2	14.3	3
Medical College of Alabama	34	30	4	11.8	4
CALIFORNIA.					
University of California, Med. Dept.	20	18	2	10.0	3
DISTRICT OF COLUMBIA.					
Georgetown Univ. School of Medicine	26	22	4	15.4	7
GEORGIA.					
Atlanta School of Medicine	20	18	2	10.0	3
Medical College of Georgia	27	24	3	11.1	4
ILLINOIS.					
Hahnemann Medical College, Chicago	51	43	8	15.7	14
Illinois Medical College	25	21	4	16.0	9
Chicago Coll. of Medicine and Surgery	52	43	9	17.3	11
INDIANA.					
Physio-Medical College of Indiana	8	7	1	12.5	2
KENTUCKY.					
Louisville Medical College	41	34	7	17.1	14
University of Louisville, Med. Dept.	88	75	13	14.8	21
MARYLAND.					
College of P. and S., Baltimore	80	71	9	11.2	17
MINNESOTA.					
University of Minnesota, Coll. of Med.	68	60	8	11.8	5
MISSOURI.					
Kansas City Hahnemann Med. Coll.	10	9	1	10.0	5
Eclectic Medical University	10	9	1	10.0	3
Ensworth-Central Medical College	31	26	5	16.1	6
Homeopathic Medical Coll. of Missouri	9	8	1	11.1	3
OHIO.					
Eclectic Medical Institute, Cincinnati	33	29	4	12.1	10
PENNSYLVANIA.					
Western Pennsylvania Medical College	61	51	10	16.4	5
SOUTH CAROLINA.					
Medical College of South Carolina	25	21	4	16.0	5
TENNESSEE.					
University of Nashville, Med. Dept.	68	56	12	17.6	13
University of Tennessee, Med. Dept.	44	37	7	15.9	8
TEXAS.					
Fort Worth University, Med. Dept.	9	8	1	11.1	1
Baylor University, College of Medicine	13	11	2	15.4	3
VERMONT.					
University of Vermont, Coll. of Med.	58	50	8	13.8	10
VIRGINIA.					
University of Virginia, Med. Dept.	54	45	9	16.7	19
Totals	979	838	141	14.4	

TABLE K.—COLLEGES HAVING OVER 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1907. BASED ON TABLE C.

College.	Total. Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of States.
CALIFORNIA.					
Cooper Medical College	27	20	7	25.9	2
College of P. and S., San Francisco	14	7	7	50.0	2
Univ. of Southern California C. of M.	35	28	7	20.0	5
DISTRICT OF COLUMBIA.					
George Washington Univ., Med. Dept.	83	62	21	25.3	15
Howard University, Med. Dept.	51	39	12	41.2	16
ILLINOIS.					
Bennett Coll. of Eclectic M. and S.	47	36	11	23.4	14
Hering Medical College	9	6	3	33.3	2
Jenner Medical College	25	18	7	28.0	3
National Medical University	23	14	9	39.1	6
IOWA.					
Sioux City College of Medicine	11	5	6	54.5	4
KENTUCKY.					
Hospital College of Medicine	48	36	12	25.0	13
Kentucky School of Medicine	45	31	14	31.1	13
LOUISIANA.					
Flint Medical College	22	11	11	50.0	3
MARYLAND.					
Baltimore Medical College	134	84	50	37.1	22
Baltimore University School of Med.	22	3	19	86.4	9
Univ. of Maryland, School of Med.	88	70	18	20.5	19
Maryland Medical College	48	23	25	52.1	15
MASSACHUSETTS.					
College of Phys. and Surg., Boston	31	21	10	32.3	9
MINNESOTA.					
Hamline University, Med. Dept.	33	22	11	33.3	5
MISSISSIPPI.					
Mississippi Medical College	31	17	14	45.2	3
MISSOURI.					
University Med. Coll., Kansas City	76	57	19	25.0	12
Barnes Medical College	93	60	33	35.5	15
St. Louis College of Phys. and Surg.	56	35	21	37.5	11
American Medical College, Eclectic	11	4	7	63.6	3
NEBRASKA.					
Creighton Medical College	45	33	12	26.7	7
Lincoln Medical College	19	14	5	26.3	7
NORTH CAROLINA.					
Leonard Medical School	49	32	17	34.7	11
North Carolina Medical College	25	16	9	36.0	3
OREGON.					
University of Oregon, Med. Dept.	30	23	7	23.3	2
Willamette University, Med. Dept.	27	8	19	70.4	2
TENNESSEE.					
Tennessee Medical College	19	13	6	31.6	3
Knoxville Medical College	5	1	4	80.0	4
Meharry Medical College	103	58	45	43.7	19
Memphis Hospital Medical College	85	63	22	25.9	9
College of Phys. and Surg., Memphis	14	9	5	35.7	6
University of the South, Med. Dept.	41	30	11	26.9	15
Chattanooga Medical College	47	33	14	29.8	12
TEXAS.					
Gate City Medical College	9	4	5	55.6	6
College of Phys. and Surg., Dallas	3	2	1	33.3	2
Totals	1584	1048	536	33.8	

TABLE L.—UNCLASSIFIED COLLEGES.

College.	Total. Examined.	Number Passed.	Number Failed.	Per cent. Failed.	No. of States.
ARKANSAS.					
Arkansas University, Medical Dept.	2	2	0	0.	2
CALIFORNIA.					
California Medical College	5	2	3	60.0	2
Coll. of Phys. and Surg., Los Angeles	3	2	1	33.3	2
Hahnemann Med. Coll. of the Pacific	2	2	0	0.	1
Oakland Coll. of Medicine and Surgery	2	2	0	0.	1
COLORADO.					
Westminster University Coll. of Med.	5	5	0	0.	1
GEORGIA.					
International Medical Missionary Coll.	1	1	0	0.	1
ILLINOIS.					
College of Medicine and Surgery, Ph.M.	2	1	1	50.0	1
INDIANA.					
Eclectic Medical College of Indiana	5	3	2	40.0	1
IOWA.					
University of Iowa, Homeopathic Dept.	4	4	0	0.	2
KENTUCKY.					
Louisville National Medical College	2	0	2	100.0	2
Southwestern Homeopathic Med. Coll.	2	1	1	50.0	2
MISSOURI.					
University of Missouri	3	3	0	0.	3
NEBRASKA.					
Nebraska College of Medicine	4	3	1	25.0	2
TENNESSEE.					
University of West Tennessee	3	0	3	100.0	1
TEXAS.					
College of Physicians and Surgeons	3	2	1	33.3	2
Totals	48	33	15	31.2	

TABLE M.—REGISTRATIONS BY STATE BOARDS DURING 1907.

States.	By Examination. 1902-1907.	By Examination. 1901 and previous.	By Examination. Non-graduates.	By Reciprocity.	Without written exam. or under exemptions.	Totals.
Alabama	123	7	12	.....	.....	142
Arizona	15	14	.....	.....	.....	29
Arkansas	24	15	33	.....	23	95
California	93	25	.....	.....	.....	118
Colorado	46	4	.....	154	.....	204
Connecticut	55	9	.....	1	.....	65
Delaware	4	.....	.....	3	.....	7
District of Columbia	55	4	.....	.....	.....	59
Florida	55	17	.....	.....	.....	72
Georgia	133	6	.....	12	2	153
Idaho	26	12	.....	.....	.....	38
Illinois	555	25	.....	35	.....	615
Indiana	161	11	.....	18	.....	190
Iowa	145	1	.....	58	.....	204
Kansas	118	7	.....	111	.....	236
Kentucky	48	.....	.....	3	193	244
Louisiana	143	10	.....	.....	.....	153
Maine	66	8	.....	12	.....	86
Maryland	136	3	.....	13	5	157
Massachusetts	206	13	7	.....	.....	226
Michigan	146	4	.....	75	17	242
Minnesota	75	5	.....	31	.....	111
Mississippi	69	7	81	.....	.....	157
Missouri	156	11	19	22	.....	208
Montana	28	6	.....	.....	.....	34
Nebraska	63	5	.....	48	1	117
Nevada	7	3	.....	23	76	109
New Hampshire	16	3	.....	.....	.....	19
New Jersey	64	9	.....	76	.....	149
New Mexico	5	.....	.....	.....	75	80
New York	625	66	.....	29	40	760
North Carolina	100	11	.....	1	.....	112
North Dakota	39	10	.....	17	.....	66
Ohio	173	6	.....	48	1	228
Oregon	41	21	.....	.....	.....	62
Pennsylvania	454	11	.....	.....	.....	465
Rhode Island	29	7	.....	.....	.....	36
South Carolina	41	.....	.....	3	.....	44
South Dakota	18	5	.....	35	.....	58
Tennessee	111	11	11	6	.....	139
Texas	128	17	43	17	.....	204
Utah	20	6	.....	3	.....	29
Vermont	37	3	.....	1	.....	41
Virginia	109	15	.....	16	.....	140
Washington	118	45	.....	.....	.....	163
West Virginia	92	.....	.....	9	.....	101
Wisconsin	57	5	.....	87	4	153
Wyoming	2	5	.....	22	.....	29
Totals	5030	488	205	989	437	7149

This table shows the total number registered during 1907 in each state by the various methods. The first column shows the recent graduates registered, the second column, the old practitioners (graduates of 1901 and previous years), the third column the non-graduates, and the fourth column shows the number licensed through reciprocity. It is interesting to note that states which have registered large numbers through reciprocity have examined very few "old practitioners." The chief exception is New York, which has arranged reciprocal relations with only four other states. The fifth column shows those registered without written examination under various exemption clauses. The last column shows the total number of physicians registered in each state during the year.

TABLE N.—PHYSICIANS REGISTERED THROUGH RECIPROCITY BY STATE EXAMINING BOARDS DURING 1907.

State Board of	Total reg. through reciprocity by each state.	Alabama.	Arkansas.	Colorado.	California.	Delaware.	Dist. of Columbia.	Georgia.	Illinois.	Indiana.	Iowa.	Kansas.	Kentucky.	Louisiana.	Maine.	Maryland.	Massachusetts.	Michigan.	Minnesota.	Mississippi.	Missouri.	Nebraska.	Nevada.	New Hampshire.	New Jersey.	New York.	North Carolina.	North Dakota.	Ohio.	Oklahoma.	Pennsylvania.	South Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	West Virginia.	Wisconsin.	Wyoming.
Connecticut	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Colorado	154	1	1	..	1	..	1	..	36	5	15	4	3	1	1	..	5	9	5	1	22	4	..	..	1	7	1	1	8	..	10	..	2	1	3	..	2	..	1	2	..
Delaware	3	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Georgia	12	..	..	..	..	..	..	..	..	2	2	..	3	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	..
Illinois	35	..	..	..	..	..	..	..	..	..	13	5	..	..	..	4	..	4	2	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	4	..
Indiana	18	..	..	..	..	..	1	..	..	..	3	..	2	..	..	..	..	1	1	..	1	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	1	..	..	..
Iowa	58	..	..	..	..	..	..	..	32	1	..	3	..	..	..	2	..	1	2	..	7	5	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	4	..
Kansas	111	1	..	2	..	..	1	..	25	3	12	..	1	1	1	1	1	3	1	..	25	13	..	..	1	1	..	..	2	3	..	..	..	1	2	..	..	..	..	..	..
Kentucky	3	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..
Maine	12	..	..	1	..	..	1	1	1	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	5	..	..	..	..
Maryland	13	..	..	..	..	..	4	..	4	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	1	1	..	..	..
Michigan	75	..	..	1	..	..	1	34	5	4	2	1	..	2	3	..	..	..	..	..	5	1	..	..	..	4	..	..	13	..	1	1	..	1	..	2	..	..	4	..
Minnesota	31	..	..	..	..	..	..	9	..	7	..	..	1	..	..	..	..	2	..	..	..	2	..	..	..	1	..	..	1	..	..	..	1	..	1	..	..	..	..	6	..
Missouri	22	..	..	1	..	..	..	..	..	3	10	5	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..
Nebraska	48	..	..	..	..	..	1	..	15	1	18	5	1	..	1	..	..	2	..	..	..	1	..	..	..	1	..	..	1	..	..	..	..	..	1	..	..	..	..	..	1
Nevada	23	..	..	..	..	..	..	..	..	4	7	..	1	..	1	2	..	3	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
New Jersey	76	..	..	..	..	1	..	..	2	..	..	..	..	..	5	..	..	1	1	..	..	..	..	1	..	65	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
New York	29	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	..	..	20	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
North Carolina	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Dakota	17	..	..	..	..	..	..	..	8	..	..	4	..	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Ohio	48	..	..	..	..	..	1	..	17	7	4	..	..	..	2	3	..	10	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
South Carolina	3	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..
South Dakota	35	..	..	..	..	..	..	..	..	..	26	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..
Tennessee	6	..	..	..	..	..	3	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Texas	17	..	..	..	..	..	1	5	..	..	..	1	..	1	..	..	..	..	..	..	3	..	..	..	..	1	..	..	..	..	3	..	..	..	..	..	..	2	..	..	..
Utah	3	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vermont	1	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Virginia	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	4	..	..
West Virginia	9	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..
Wisconsin	87	..	..	..	..	..	..	..	55	1	5	1	..	..	..	..	..	10	6	..	1	..	..	..	..	..	..	..	1	2	..	..	1	..	4	..	..	..	..	..	..
Wyoming	22	..	..	..	..	..	..	..	7	1	2	1	..	..	..	..	..	1	..	..	4	3	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..
Total received from each state through reciprocity	989	2	1	5	2	1	15	10	240	30	126	33	31	3	16	25	6	62	29	1	79	30	2	1	27	79	1	3	39	4	15	2	4	5	12	1	12	11	6	27	1

This table shows the number of physicians registered by each state through reciprocity during 1907. "Reciprocity" is not the best term to use, however, since some states, Colorado for instance, register candidates who have satisfactory credentials including a license, regardless as to whether the state issuing the original license reciprocates with those states or not. Taking New York as an example, reading from left to right, the table shows that New York registered a total of 29 applicants through reciprocity during 1907, of which number 8 came from Michigan, 20 from New Jersey and 1 from Ohio. Reading from above downward, the table shows that 79 physicians left New York during 1907 and registered in other states under the reciprocity provision, of which number 7 registered in Colorado, 1 in Kansas, 4 in Michigan, 65 in New Jersey, 1 in North Carolina and 1 in Texas.

Colorado leads, having registered 154 physicians through reciprocity, followed by Kansas, which registered 111, Wisconsin with 87, New Jersey with 76, and Michigan with 75.

It is interesting to note in what states the original licenses were issued. The table shows that of the 989 applicants registered through reciprocity, 240, or nearly 25 per cent., obtained their original licenses in Illinois, 126 in Iowa, 79 each in Missouri and New York and 62 in Michigan.

Altogether 989 licenses were issued through reciprocity in 1907, an increase of 304 over 1906, when 685 such licenses were issued.

Marginal Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Colorado.		6 Connecticut.		7 Delaware.		8 Dist. of Col.		9 Florida.		10 Georgia.		11 Idaho.		12 Illinois.		13 Indiana.		14 Iowa.		15 Kansas.		16 Kentucky.		17 Louisiana.		18 Maine.		19 Maryland.		20 Massachusetts.		21 Michigan.		Marginal Number.
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA.																																									
1	Birmingham Medical College.—R	11	2															1	0	1	0																							1
2	Medical College of Alabama.—R	26	2			1	0											2	0	1	0																							2
	ARKANSAS.																																									
3	Arkansas University Med. Department.—R					1	0											1	0																							1
	CALIFORNIA.																																									
4	Cooper Medical College.—R							19	7																																	4
5	University of California, Medical Dept.—R			1	0			17	1																																	5
6	California Medical College.—E			1	0			1	1																																	6
7	Hahnemann Med. Coll. of the Pacific.—H							2	0																																	7
8	College of Physicians and Surgeons.—R							6	7																																	8
9	Oakland College of Med. and Surgery.—R							2	0																																	9
10	Univ. of Southern Cal., Coll. of Med.—R			1	0			21	7															1	0																	10
11	Coll. of Phys. and Surg., Los Angeles.—R							1	1																																	11
	COLORADO.																																									
12	Denver and Gross College of Medicine.—R							1	0	15	0											1	0	1	0																	12
13	Westminster University Coll. of Med.—P									5	0																															13
14	Colorado School of Medicine, Boulder.—R							1	0	14	0											1	0																			14
	CONNECTICUT.																																									
15	Yale University Medical School.—R									1	0	23	0			1	0																					1	0	3	0			15
	DISTRICT OF COLUMBIA.																																									
16	George Washington Univ., Dept. of Med.—R					1	0	1	0							32	16																					7	3	1	1			16
17	Georgetown Univ., School of Medicine.—R							0	1							10	4	1	0																			3	0	3	0			17
18	Howard University, Medical Department.—R							0	2							7	7	1	0	5	0			2	0					2	0	1	0					5	2	1	0			18
	GEORGIA.																																									
19	Atlanta College of Phys. and Surgs.—R	4	0															9	0	30	3							1	0													19
20	Georg'a Coll. of Eclectic Med. and Surg.—E																			11	1																					20
21	Atlanta School of Medicine.—R	0	1															2	0	16	1																					21
22	Medical College of Georgia.—R																	0	1	21	0																					22
23	International Med. Miss. Coll.—R																			1	0																					23
	ILLINOIS.																																									
24	American Medical Missionary College.—R	1	0																			1	0	3	0													1	0	1	1			24
25	Bennett Coll. of Eclectic Med. and Surg.—E							0	2													1	0	25	3	1	1	2	0	1	0											25
26	College of Medicine and Surgery.—Ph.M																							1	1																	26
27	College of Phys. and Surg., Chicago.—R	1	0					1	4	0	1							2	0			2	0	98	3	6	1	5	0									0	1			27
28	Hahnemann Med. College and Hospital.—H			1	0	2	0	0	3			1	0									0	1	25	7	4	0			3	0									1	0	28
29	Hering Medical College.—H									1	0													5	3																	29
30	Illinois Medical College.—R					1	0																	12	1	3	1	0	1					1	0					1	0	30
31	Jenner Medical College.—R																							16	6	0	1															31
32	Northwestern University Med. School.—R					2	0	2	1	2	0							2	0			5	0	107	0	6	0	6	2									1	0			32
33	Rush Medical College.—R			5	0	1	0	4	0	2	0											2	0	63	0	5	1															33
34	National Medical University.—P																							13	4													0	1			34
35	Chicago Coll. of Med. and Surgery.—R																							31	4	4	0	2	0													35
	INDIANA.																																									
36	Indiana Medical College.—R			1	0					1	1													1	1	67	5															36
37	Physio-Medical College of Indiana.—Ph.M																							1	1	6	0															37
38	Eclectic Medical College of Indiana.—E																									3	2															38
39	Indiana University, School of Med.—R																							1	0	24	0															39
	IOWA.																																									
40	Drake University, College of Medicine.—R																					1	0					14	1													40
41	Keokuk Med. Coll. of Phys. and Surg.—R			2	0			2	0	0	1											1	0	1	1			28	3													41
42	Sioux City College of Medicine.—R																											5	3													42
43	State Univ. of Iowa Coll. of Medicine.—R							0	3													1	0					51	1													43
44	State Univ. of Iowa, Homeopathic Dept.—H																											3	1													44
	KANSAS.																																									
45	Kansas Medical College.—R							0	1																					15	0											45
46	University of Kansas, School of Med.—R									1	0																			25	1											46
	KENTUCKY.																																									
47	Hospital College of Medicine.—R																	1	0					2	1	3	1			1	0	13	4	4	1					1	0	47
48	Kentucky School of Medicine.—R	2	1					0	1															2	0	13	1	1	0			4	3	1	0	1	1			0	1	48
49	Louisville Medical College.—R	3	0			1	0	0	1									1	1							3	1			2	0	8	1	5	0							49
50	Louisville National Medical College.—R																			0	1											0	1									50
51	Southwestern Homeopathic Med. Coll.—H					1	0																															0	1			51
52	University of Louisville, Medical Dept.—R	5	0			2	0	0	1									1	0	2	3	0	1	6	1	7	1			4	1	10	2	5	0							52
	LOUISIANA.																																									
53	Flint Medical College.—R																																	11	1							53
54	Tulane University, Medical Department.—R	4	0					0	1									1	0	1	0													70	0							54
	MAINE.																																									
55	Medical School of Maine, Bowdoin Coll.—R							0	1															1	0											17	0			2	0			55
	MARYLAND.																																									
56	Baltimore Medical College.—R							0	1			2	3			1	5			2	0							1	1							3	0	9	7	16	12			56
57	Baltimore University, School of Med.—R											0	1							0	1													1	1	2	0	0	3	1	6			57
58	Coll. of Phys. and Surgs. of Baltimore.—R	2	0	1	0							2	0															1	0							0	1	10	1	4	2			58
59	Johns Hopkins Medical School.—R	3	0	1	0							3	0			2	1			2	0			1	0					1	0			2	0			31	1	3	0	1	0	59
60	Atlantic Medical College.—P																																					10	0					60
61	University of Maryland, School of Med.—R	2	0			1	0	1	2			1	1			0	1	2	0	4	0									1	0							32	7	1	0			61
62	Woman's Medical College of Baltimore.—R																																					6	1					62
63	Maryland Medical College.—R									0	1	2	1	1	2					1	0																	0	8	0	1			63
	MASSACHUSETTS.																																									
64	Boston University, School of Medicine.—H											1	0			1	0																			4	0			13	1			64
65	College of Physicians and Surgeons.—R							0	1			0	1																							4	0			9	7			65
66	Harvard University Medical School.—R							3	1			1	0											1	0	1	0									1	0	5	1	1	0	50	1			66
67	Tufts College Medical School.—R							0	1			1	1											2	0											9	0			48	5			67
	MICHIGAN.																																									
68	Detroit College of Medicine.—R							1	1															0	1																	68
69	Detroit Homeopathic Medical College.—H																																									69
70	Univ. of Mich., Dept. of Med. and Surg.—R	10	0	1	0			1	4									1	0					1	0	2	0	1	0	1	0	1	0					1	0	1	0	50	0	70
71	Univ. of Michigan, Homeopathic Dept.—H							0	2																	1	0															10	0	71
	MINNESOTA.																																									
72	Univ. of Minn., Coll. of Med. and Surg.—R							1	0													1	0																			72
73	Univ. of Minnesota, Homeopathic Dept.—H																																									73
74	Minnesota College of Phys. and Surgs.—R																					1	0																			74
	MISSISSIPPI.																																									
75	Mississippi Medical College.—R	1	0			0	1																																			75
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

| Marginal Number. | 22 | | 23 | | 24 | | 25 | | 26 | | 27 | | 28 | | 29 | | 30 | | 31 | | 32 | | 33 | | 34 | | 35 | | 36 | | 37 | | 38 | | 39 | | 40 | | 41 | | 42 | | 43 | | 44 | | 45 | | 46 | | 47 | | 48 | | Totals. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of Times Examined in. | Marginal Number. |
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Marginal Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Colorado.		6 Connecticut.		7 Delaware.		8 Dist. of Col.		9 Florida.		10 Georgia.		11 Idaho.		12 Illinois.		13 Indiana.		14 Iowa.		15 Kansas.		16 Kentucky.		17 Louisiana.		18 Maine.		19 Maryland.		20 Massachusetts.		21 Michigan.		Marginal Number.
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	MISSOURI.																																									
76	University Medical College, Kansas City.—R.							0	1	1	0											1	0					0	2	21	4											76
77	Kansas City Hahnemann Med. College.—H.																					1	1			1	0			5	0											77
78	Eclectic Medical University.—E.																													8	0											78
79	Ensworth Central Medical College.—R.							0	1													1	0					2	1	18	0											79
80	Barnes Medical College.—R.	1	0	0	2	3	1											1	0			2	0	32	5					5	0	1						0	1			80
81	St. Louis University, Med. Department.—R.					1	0			1	0											2	1	26	1	1	0	1	0	1	0			1	0							81
82	St. Louis Coll. of Phys. and Surgeons.—R.	1	0			1	0									0	1			1	0	2	0	23	3			0	1	1	0							0	1			82
83	American Medical College.—E.			1	0			0	1																															83
84	Homeopathic Med. College of Missouri.—H.					2	0																	2	0															84
85	Washington University, Med. Dept.—R.					1	0	1	0									1	0			0	1	26	0															85
86	University of Missouri, Dept. of Med.—R.							0	1									1	0																					86
	NEBRASKA.																																								
87	University of Nebraska, Coll. of Med.—R.																							1	0					1	0											87
88	John A. Creighton Medical College.—R.																											10	6	0	1											88
89	Lincoln Medical College.—E.																							1	0					2	0											89
90	Nebraska College of Medicine.—R.																																									90
	NEW HAMPSHIRE.																																								
91	Dartmouth Medical College.—R.											4	0																							3	0		8	1		91
	NEW YORK.																					1	0																			
92	Albany Medical College.—R.																																								92
93	College of Physicians and Surgeons.—R.			1	0			0	1	1	0	5	0					2	0					1	1											1	0	5	0			93
94	Cornell University Medical College.—R.							1	0									1	0					2	0											1	0	3	0			94
95	Eclectic Med. Coll. of City of New York.—E.																																									95
96	Long Island College Hospital.—R.			1	0			1	0			1	0											0	1													1	0			96
97	New York Homeo. Med. Coll. and Hosp.—H.					1	0	0	1			2	0			1	0											2	0													97
98	N. Y. Med. Coll. and Hosp. for Women.—H.																																									98
99	Univ. and Bellevue Hosp. Med. Coll.—R.							2	3			4	0					3	0	1	0			2	0													4	0			99
100	Syracuse University, Coll. of Med.—R.																																									100
101	University of Buffalo, Medical Dept.—R.																																										101
	NORTH CAROLINA.																																									
102	Leonard School of Medicine.—R.	3	1													0	1	2	0	2	1															0	1					102
103	North Carolina Medical College.—R.																																									103
104	Univ. of North Carolina, Med. Dept.—R.	1	0															1	0																							104
	OHIO.																																									
105	Western Reserve Univ., Med. Dept.—R.																																									105
106	Cleveland College of Phys. and Surgs.—R.							1	0																																	106
107	Cleveland Homeopathic Medical College.—H.							0	1																																	107
108	Eclectic Medical Institute.—E.							2	0									2	0	1	0			3	0	2	1	1	0	1	0	1	0									108
109	Medical College of Ohio—R.			2	0					1	0							2	0			1	0			2	0			2	1											109
110	Pulte Medical College.—H.					1	0																																			110
111	Miami Medical College.—R.																	1	0							1	0			0	1	2	0							1	0	111
112	Starling Ohio Medical College.—R.																							1	0					1	0									1	0	112
113	Toledo Medical College.—R.																																									113
	OREGON.																																									
114	University of Oregon, Med. Dept.—R.																																										114
115	Willamette University Medical Dept.—R.																																										115
	PENNSYLVANIA.																																									
116	Temple College of Medicine.—R.																																										116
117	University of Penn., Dept. of Med.—R.			1	0			3	3			2	0			1	0	2	0					1	0	1	0			1	0			2	0	10	0	1	1			117
118	Hahnemann Med. Coll. and Hospital.—H.							3	2			1	0			2	0							1	0			1	0							5	0	3	1			118
119	Jefferson Medical College, Philadelphia.—R.			2	0	1	1	4	4			2	0	2	0			1	0	1	0	1	0	4	0			2	0					2	0	1	2	8	0	0	1	119
120	Woman's Med. Coll. of Pennsylvania.—R.													1	0					1	0															2	0	5	2			120
121	Medico-Chirurgical Coll. of Philadelphia.—R.							0	2			1	0									1	0	1	0	1	0					1	0	1	0	2	1	0	1			121
122	Western Pennsylvania Med. Coll.—R.			1	0																					1	1					1	0							122
	SOUTH CAROLINA.																																									
123	Med. Coll. of the State of So. Carolina.—R.	1	0															1	1	1	0																					123
	TENNESSEE.																																									
124	Tennessee Medical College.—R.									1	0																															124
125	Knoxville Medical College.—R.																			1	1																					125
126	University of Nashville, Med. Dept.—R.	16	1			2	0																	1	0							0	1	8	1							126
127	Vanderbilt University, Med. Dept.—R.	4	0			2	0											0	1	2	0													1	0							127
128	Univ. of Tennesse, Med. Department.—R.	6	1			0	2											7	0	12	1											1	2	1	0							128
129	Meharry Medical College.—R.	4	0			2	11											7	0	12	1					1	0			4	3	2	1	5	2		0	2		1	0	129
130	Memphis Hospital Medical College.—R.	7	1			1	1											1	0															21	1							130
131	Coll. of Phys. and Surgeons, Memphis.—R.	0	1			0	1													0	1													1	0							131
132	University of the South, Medical Dept.—R.	2	0			1	0											2	1	11	1													6	0	2	1		0	1		132
133	Chattanooga Medical College.—R.	12	2															2	0	3	3											0	2	2	0							133
134	Univ. of West Tennessee, Med. Dept.—R.					0	3																																			134
	TEXAS.																																									
135	Fort Worth University, Med. Dept.—R.																																									135
136	University of Texas, Dept. of Medicine.—R.																																									136
137	Baylor University, College of Medicine.—R.																			1	0																					137
138	Gate City Med. Coll., Texarkana.—R.																			2	0													2	0							138
139	Southwestern Univ. Med. Coll., Dallas—R.			1	0																																					139
140	Coll. of Phys. and Surgeons, Dallas.—R.					0	1																											2	0							140
	VERMONT.																																									
141	Univ. of Vermont, Medical Dept.—R.											3	0					1	0					2	0													12	2			141
	VIRGINIA.																																									
142	Medical College of Virginia.—R.			1	0													1	0																							142
143	University College of Medicine.—R.	1	0															1	0			0	1															1	0			143
144	Univ. of Virginia, Dept. of Medicine.—R.	1	0			2	0									0	1	1	0	1	0	2	0	1	0	1	0							1	0							144
	WISCONSIN.																																									
145	Milwaukee Medical College.—R.																							1	0																	145
146	Wisconsin Coll. of Phys. and Surgs.—R.																																									146
147	Canadian Colleges							3	0	1	0	1	1			1	0					3	0	6	0			5	0					1	0	15	0		7	5	1	0	147
148	Foreign	1	0	1	0			7	2	1	1	8						1	0					6	1	1	0	0	1					1	0		2	0	3	3			148
149	Miscellaneous Medical Colleges	1	1	2	0	3	1	2	2	1	0							4	2			2	1	25	2			0	1	2	0					1	0					149
150	Undergraduates	12	24			33	35			0	1																											7	59			150
	Totals by States	180		31		178		202		56		81		6		96		80		161		45		632		189		172		139		67		160		78		180		844		158		
	Totals—Examined—Passed	142		29		72		118		50		64		4		59		72		139		38		590		172		146		122		48		153		74		139		226		150		
	Totals—Examined—Failed	38		2		106		84		6		17		2		37		8		22		7		52		17		26		14		19		7		4		41		118		8		
	Percentage of Failures	21.1		6.5		59.5		41.6		10.7		21.0		33.3		38.5		8		13.7		15.6		8.2		9.0		15.1		10.1		28.4		4.4		5.1		22.8		34.3		5.1		
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

| Marginal Number. | 22 Minnesota. | | 23 Mississippi. | | 24 Missouri. | | 25 Montana. | | 26 Nebraska. | | 27 Nevada. | | 28 New Hamp. | | 29 New Jersey. | | 30 New Mexico. | | 31 New York. | | 32 N. Carolina. | | 33 North Dakota. | | 34 Ohio. | | 35 Oregon. | | 36 Pennsylvania. | | 37 Rhode Island. | | 38 S. Carolina. | | 39 South Dakota. | | 40 Tennessee. | | 41 Texas. | | 42 Utah. | | 43 Vermont. | | 44 Virginia. | | 45 Washington. | | 46 West Virginia. | | 47 Wisconsin. | | 48 Wyoming. | | Totals. | Examined — Passed. | Examined — Failed. | Percentage of Failures. | No. of States Examined in. | Marginal Number. |
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Marginal Number.	NAME OF COLLEGE.	1 Alabama		2 Arizona.		3 Arkansas.		4 California.		5 Colorado.		6 Connecticut.		7 Delaware.		8 Dist. of Col.		9 Florida.		10 Georgia.		11 Idaho.		12 Illinois.		13 Indiana.		14 Iowa.		15 Kansas.		16 Kentucky.		17 Louisiana.		18 Maine.		19 Maryland.		20 Massachusetts.		21 Michigan.		Marginal Number.
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA.																																									
1	Birmingham Medical College.—R.	10	2																																							1
2	Medical College of Alabama.—R.	23	1															1	0	1	0																					2
	ARKANSAS.																																									
3	Arkansas University Med. Department.—R.						1	0																																	3
	CALIFORNIA.																																									
4	Cooper Medical College.—R.							17	6																																	4
5	University of California, Medical Dept.—R.							16	1																																	5
6	California Medical College.—E.																																									6
7	Hahnemann Med. Coll. of the Pacific.—H.							2	0																																	7
8	College of Physicians and Surgeons.—R.							2	3																																	8
9	Oakland College of Med. and Surgery.—R.							2	0																																	9
10	Univ. of Southern Cal., Coll. of Med.—R.			1	0			16	3																																	10
11	Coll. of Phys. and Surg., Los Angeles.—R.							1	1																																	11
	COLORADO.																																									
12	Denver and Gross College of Medicine.—R.									14	0																																	12
13	Westminster University Coll. of Med.—P.									5	0																																	13
14	Colorado School of Medicine, Boulder.—R.							1	0	12	0																																	14
	CONNECTICUT.																																									
15	Yale University Medical School.—R.											16	0																											1	0			15
	DISTRICT OF COLUMBIA.																																									
16	George Washington Univ., Dept. of Med.—R.							1	0							21	6																					4	3	1	1			16
17	Georgetown Univ., School of Medicine.—R.															5	0	1	0																			1	0	1	0			17
18	Howard University, Medical Department.—R.															2	3			2	0									2	0	1	0					4	1					18
	GEORGIA.																																									
19	Atlanta College of Phys. and Surgs.—R.	3	0															7	0	29	3																					19
20	Georgia Coll. of Eclectic Med. and Surg.—E.																			11	1																					20
21	Atlanta School of Medicine.—R.	0	1															1	0	16	1																					21
22	Medical College of Georgia.—R.																			20	0																					22
23	International Med. Miss. Coll.—R.																			1	0																					23
	ILLINOIS.																																									
24	American Medical Missionary College.—R.	1	0																					1	0																	24
25	Bennett Coll. of Eclectic Med. and Surg.—E.																					1	0	25	3	0	1	2	0	1	0									25	1	0
26	College of Medicine and Surgery.—Ph.M.																							1	1																	26		
27	College of Phys. and Surg., Chicago.—R.							0	2									1	0			1	0	93	2	3	0	5	0													27	4	0
28	Hahnemann Med. College and Hospital.—H.																							24	3	2	0			3	0									1	0	28		
29	Hering Medical College.—H.																							5	3																	29		
30	Illinois Medical College.—R.																							11	0	2	0	0	1					1	0					1	0	30		
31	Jenner Medical College.—R.																							15	4	0	1															31		
32	Northwestern University Med. School.—R.					1	0	2	0	2	0											2	0	101	0	2	0	5	2													32	2	0
33	Rush Medical College.—R.			1	0					1	0													46	0	1	0															33	3	0
34	National Medical University.—P.																							12	3																	34		
35	Chicago Coll. of Med. and Surgery.—R.																							31	4	1	0	2	0													35	0	1
	INDIANA.																																									
36	Indiana Medical College.—R.									1	0															65	2															36		
37	Physio-Medical College of Indiana.—Ph.M.																							1	1	6	0															37		
38	Eclectic Medical College of Indiana.—E.																									2	1															38		
39	Indiana University, School of Med.—R.																							1	0	24	0															39		
	IOWA.																																										
40	Drake University, College of Medicine.—R.																											14	1													40		
41	Keokuk Med. Coll. of Phys. and Surg.—R.																											27	2													41		
42	Sioux City College of Medicine.—R.																											5	3													42		
43	State Univ. of Iowa Coll. of Medicine.—R.							0	1													1	0					51	1													43		
44	State Univ. of Iowa, Homeopathic Dept.—H.																											3	0													44		
	KANSAS.																																									
45	Kansas Medical College.—R.																													14	0											45		
46	University of Kansas, School of Med.—R.																													25	1											46		
	KENTUCKY.																																									
47	Hospital College of Medicine.—R.																							1	0	2	0					12	4	2	0					1	0	47		
48	Kentucky School of Medicine.—R.	2	0																					1	0	10	1	1	0			4	3									48		
49	Louisville Medical College.—R.	3	0															1	0							1	0			1	0	4	1	1	0							49		
50	Louisville National Medical College.—R.																			0	1											0	1									50		
51	Southwestern Homeopathic Med. Coll.—H.																																									51		
52	University of Louisville, Medical Dept.—R.	4	0					1	0									1	0	2	2			5	1	6	0			4	1	10	1	3	0							52		
	LOUISIANA.																																									
53	Flint Medical College.—R.																																	9	0							53		
54	Tulane University, Medical Department.—R.	3	0																															67	0							54		
	MAINE.																																										
55	Medical School of Maine, Bowdoin Coll.—R.																																			16	0					55		
	MARYLAND.																																										
56	Baltimore Medical College.—R.											1	1			0	1			1	0															1	0	8	6	10	5			56	0	1
57	Baltimore University, School of Med.—R.																																					0	2	0	1			57		
58	Coll. of Phys. and Surgs. of Baltimore.—R.	1	0									2	0															1	0									8	1	3	2			58		
59	Johns Hopkins Medical School.—R.	2	0									1	0			0	1			1	0			1	0													26	1	1	0			59		
60	Atlantic Medical College.—P.																																					10	0					60		
61	University of Maryland, School of Med.—R.							0	2			1	1					1	0	2	0																	30	6					61		
62	Woman's Medical College of Baltimore.—R.																																					4	1					62		
63	Maryland Medical College.—R.											1	1	1	2																							0	6	0	1			63		
	MASSACHUSETTS.																																										
64	Boston University, School of Medicine.—H.											1	0			1	0																			1	0			5	1			64		
65	College of Physicians and Surgeons.—R.																																			1	0			8	4			65		
66	Harvard University Medical School.—R.																							1	0											1	0	1	0	38	1			66	0	1
67	Tufts College Medical School.—R.																																			3	0			38	3			67		
	MICHIGAN.																																							63	3			
68	Detroit College of Medicine.—R.																																							8	0			68		
69	Detroit Homeopathic Medical College.—H.																																							47	0			69		
70	Univ. of Mich., Dept. of Med. and Surg.—R.	1	0																									1	0											10	0			70	2	0
71	Univ. of Michigan, Homeopathic Dept.—H.																											1	0													71		
	MINNESOTA.																																									
72	Univ. of Minn., Coll. of Med. and Surg.—R.																																										72	31	4
73	Univ. of Minnesota, Homeopathic Dept.—H.																																										73		
74	Minnesota College of Phys. and Surgs.—R.																																										74	10	5
	MISSISSIPPI.																																										
75	Mississippi Medical College.—R.	1	0					0	1																																	75		
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

| Marginal Number. | 22 Minnesota. | | 23 Mississippi. | | 24 Missouri. | | 25 Montana. | | 26 Nebraska. | | 27 Nevada. | | 28 New Hamp. | | 29 New Jersey. | | 30 New Mexico. | | 31 New York. | | 32 N. Carolina. | | 33 North Dakota. | | 34 Ohio. | | 35 Oregon. | | 36 Pennsylvania. | | 37 Rhode Island. | | 38 S. Carolina. | | 39 South Dakota. | | 40 Tennessee. | | 41 Texas. | | 42 Utah. | | 43 Vermont. | | 44 Virginia. | | 45 Washington. | | 46 West Virginia. | | 47 Wisconsin. | | 48 Wyoming. | | Totals. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of States Examined in. | Marginal Number. |
|---|---|---

Marginal Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Colorado.		6 Connecticut.		7 Delaware.		8 Dist. of Col.		9 Florida.		10 Georgia.		11 Idaho.		12 Illinois.		13 Indiana.		14 Iowa.		15 Kansas.		16 Kentucky.		17 Louisiana.		18 Maine.		19 Maryland.		20 Massachusetts.		21 Michigan.	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	MISSOURI.																																								
76	University Medical College, Kansas City.—R.																											15	4												
77	Kansas City Hahnemann Med. College.—H.																									1	0	5	0												
78	Eclectic Medical University.—E.																											7	0												
79	Ensworth Central Medical College.—R.																			1	0							2	1	16	0										
80	Barnes Medical College.—R.					2	1													1	0			19	2					4	1										
81	St. Louis University, Med. Department.—R.									1	0									1	0			25	1					1	0										
82	St. Louis Coll. of Phys. and Surgeons.—R.	1	0													0	1							21	2			0	1												
83	American Medical College.—E.																																								
84	Homeopathic Med. College of Missouri.—H.					2	0																	2	0																
85	Washington University, Med. Dept.—R.					1	0																	21	0																
86	University of Missouri, Dept. of Med.—R.																																								
	NEBRASKA.																																								
87	University of Nebraska, Coll. of Med.—R.																																								
88	John A. Creighton Medical College.—R.																																								
89	Lincoln Medical College.—E.																							1	0			9	5												
90	Nebraska College of Medicine.—R.																													1	0										
	NEW HAMPSHIRE.																																								
91	Dartmouth Medical College.—R.											1	0																									6	0		
	NEW YORK.																																								
92	Albany Medical College.—R.																																								
93	College of Physicians and Surgeons.—R.																																			0	1				
94	Cornell University Medical College.—R.							1	0															1	0											1	0	2	0		
95	Eclectic Med. Coll. of City of New York.—E.																							2	0																
96	Long Island College Hospital.—R.											1	0																									1	0		
97	New York Homeo. Med. Coll. and Hosp.—H															1	0											2	0												
98	N. Y. Med. Coll. and Hosp. for Women.—H.																																								
99	Univ. and Bellevue Hosp. Med. Coll.—R.											1	0					1	0																			1	0		
100	Syracuse University, Coll. of Med.—R.																																								
101	University of Buffalo, Medical Dept.—R.																																								
	NORTH CAROLINA.																																								
102	Leonard School of Medicine.—R.																	2	0	1	0															0	1				
103	North Carolina Medical College.—R.																																								
104	Univ. of North Carolina, Med. Dept.—R.	1	0															1	0																						
	OHIO.																																								
105	Western Reserve Univ., Med. Dept.—R.																																								
106	Cleveland College of Phys. and Surgs.—R.																																								
107	Cleveland Homeopathic Medical College.—H.																																								
108	Eclectic Medical Institute.—E.							1	0									2	0							2	0	1	0			1	0								
109	Medical College of Ohio—R.																									1	0					2	1								
110	Pulte Medical College.—H.																																								
111	Miami Medical College.—R.																															1	0								
112	Starling Ohio Medical College.—R.																							1	0					1	0										
113	Toledo Medical College.—R.																																								
	OREGON.																																								
114	University of Oregon, Med. Dept.—R.																																								
115	Willamette University Medical Dept.—R.																																								
	PENNSYLVANIA.																																								
116	Temple College of Medicine.—R.																																								
117	University of Penn., Dept. of Med.—R.											1	0											1	0	1	0							1	0	8	0				
118	Hahnemann Med. Coll. and Hospital.—H.															2	0																			3	0	1	1		
119	Jefferson Medical College, Philadelphia.—R.							3	2					1	0					1	0	1	0					1	0							1	1	5	0		
120	Woman's Med. Coll. of Pennsylvania.—R.													1	0																					1	0	2	0		
121	Medico-Chirurgical Coll. of Philadelphia.—R.																							1	0											1	0				
122	Western Pennsylvania Med. Coll.—R.																																			1	0				
	SOUTH CAROLINA.																																								
123	Med. Coll. of the State of So. Carolina.—R.																																								
	TENNESSEE.																																								
124	Tennessee Medical College.—R.																																								
125	Knoxville Medical College.—R.																																								
126	University of Nashville, Med. Dept.—R.	12	1			1	0																	1	0									7	0						
127	Vanderbilt University, Med. Dept.—R.	3	0			1	0													1	0													1	0						
128	Univ. of Tennesse, Med. Department.—R.	5	1															1	0													1	2	1	0						
129	Meharry Medical College.—R.	3	0			0	8											6	0	10	1					1	0			3	2	2	1	3	0			0	2		
130	Memphis Hospital Medical College.—R.	6	1			1	1																											16	0						
131	Coll. of Phys. and Surgeons, Memphis.—R.					0	1													0	1													1	0						
132	University of the South, Medical Dept.—R.	1	0																	7	0																				
133	Chattanooga Medical College.—R.	10	0															2	0	2	2																				
134	Univ. of West Tennessee, Med. Dept.—R.					0	2																									0	2								
	TEXAS.																																								
135	Fort Worth University, Med. Dept.—R.																																								
136	University of Texas, Dept. of Medicine.—R.																																								
137	Baylor University, College of Medicine.—R.																																								
138	Gate City Med. Coll., Texarkana.—R.																			2	0																				
139	Southwestern Univ. Med. Coll., Dallas—R.			1	0																																				
140	Coll. of Phys. and Surgeons, Dallas.—R.																																	2	0						
	VERMONT.																																								
141	Univ. of Vermont, Medical Dept.—R.											1	0																									4	0		
	VIRGINIA.																																								
142	Medical College of Virginia.—R.																	1	0																						
143	University College of Medicine.—R.	1	0																																			1	0		
144	Univ. of Virginia, Dept. of Medicine.—R.	1	0																			1	0	2	0	1	0														
	WISCONSIN.																																								
145	Milwaukee Medical College.—R.																							1	0																
146	Wisconsin Coll. of Phys. and Surgs.—R.																																								
147	Canadian Colleges							1	0															2	0			3	0							9	0			1	1
148	Foreign																																								
149	Miscellaneous Medical Colleges	1	0																					24	1															6	3
	Totals by States	106		3		25		87		36		31		5		44		30		123		11		531		142		151		112		54		114		35		142		151		143	
	Totals—Examined—Passed	99		3		11		66		36		28		3		32		30		111		11		500		136		134		103		38		114		35		110		130		137	
	Totals—Examined—Failed	7		0		14		21		0		3		2		12		0		12		0		31		6		17		9		16		0		0		32		21		6	
	Percentage of Failures	6.6		0.		60.0		24.1		0.		97.0		40.0		27.3		0.		9.8		0.		5.8		4.2		11.3		8.0		29.6		0.		0.		22.5		18.9		4.2	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

Marginal Number.	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	Totals.	Examined — Passed.	Examined — Failed.	Percentage of Failures.	No. of States Examined in.	Marginal Number.
	Minnesota.	Mississippi.	Missouri.	Montana.	Nebraska.	Nevada.	New Hamp.	New Jersey.	New Mexico.	New York.	N. Carolina.	North Dakota.	Ohio.	Oregon.	Pennsylvania.	Rhode Island.	S. Carolina.	South Dakota.	Tennessee.	Texas.	Utah.	Vermont.	Virginia.	Washington	West Virginia.	Wisconsin.	Wyoming.						
	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F						
76			29 9						2 0											1 0								60	47	13	21.7	4	76
77			1 0																					1 0				8	8	0	0.	4	77
78			1 0																									8	8	0	0.	2	78
79			5 0																									25	24	1	4.	4	79
80		1 0	22 10																	1 0				1 0				65	51	14	21.5	8	80
81			22 1		1 0															2 0				3 0	1 0			53	57	2	3.4	9	81
82			0 7		1 0															1 0								41	30	11	26.9	7	82
83			3 3																									6	3	3	50.0	1	83
84			3 1																									8	7	1	12.5	3	84
85			30 4																					3 0				59	55	4	6.8	4	85
86			1 0																									1	1	0	0.	1	86
87					18 0							2 0																20	20	0	0.	2	87
88					19 3																			1 0				37	29	8	21.6	3	88
89			0 1		8 4																							15	10	5	33.3	4	89
90	1 0				2 1																							4	3	1	25.0	2	90
91							2 0																					9	9	0	0.	3	91
92										29 2					1 0													32	30	2	6.2	2	92
93										53 0	1 0		1 0				1 0					1 0						58	57	1	1.7	6	93
94								1 0		52 0				1 0			1 0											60	60	0	0.	3	94
95										10 0																		12	12	0	0.	2	95
96										56 5			1 0															64	59	5	7.8	4	96
97										20 1																		24	23	1	4.2	3	97
98										4 0																		4	4	0	0.	1	98
99										56 1																		54	53	1	1.9	4	99
100										22 1																		24	23	1	4.2	2	100
101										40 0			3 0		1 0													44	44	0	0.	3	101
102		0 1									8 0				1 0		1 1						4					26	19	7	73.1	8	102
103											12 2						1 3											18	13	5	27.8	2	103
104											7 1						1 0											11	10	1	9.1	4	104
105													10 0		1 0													11	11	0	0.	2	105
106													12 1		1 0													14	13	1	7.2	2	106
107										1 0			7 1		3 0													9	8	1	11.1	3	107
108	0 1												12 0		4 0										1 0			26	25	1	3.8	9	108
109													29 0															33	32	1	3.0	3	109
110													5 0		1 0													6	6	0	0.	2	110
111													15 0															16	16	0	0.	2	111
112													37 0															40	40	0	0.	3	112
113													9 0															8	8	0	0.	1	113
114														13 4														22	18	4	18.2	2	114
115														3 16										1 0				19	4	15	78.9	2	115
116															4 0													4	4	0	0.	1	116
117								10 0		2 0			2 0		73 0	2 0			1 0									102	102	0	0.	11	117
118								5 0		1 0			2 0		37 1													54	52	2	3.7	8	118
119								2 0		1 0	9 0		2 0		61 5	1 0												105	95	8	7.8	15	119
120		1 0						7 0		4 0					12 0							2 0			1 0			28	28	0	0.	7	120
121								4 0							60 2						1 0			1 0				79	77	2	2.5	6	121
122													1 0		42 7													51	44	7	13.7	3	122
123											1 0						15 3											19	16	3	15.8	2	123
124																			10 3				0 1					14	10	4	28.6	2	124
125																																	125
126		5 6									1 0						2 0		7 0	6 0			1 0		1 0			51	44	7	13.7	11	126
127																	1 0		15 0	2 0			1 0					25	25	0	0.	8	127
128											1 1								23 0									36	32	4	11.1	6	128
129															0 1				9 0	2 3								57	39	18	31.6	12	129
130		3 9																	6 0	7 0								50	39	11	22.0	6	130
131		12 13																	4 0									32	17	15	46.9	5	131
132		4 2																					0 2					16	12	4	25.0	4	132
133											1 0						3 1		4 2				0 1					30	22	8	26.7	8	133
134																												2	0	2	100.0	1	134
135																				1 1								8	7	1	12.5	1	135
136																				17 0								17	17	0	0.	1	136
137																				7 2								9	7	2	22.2	1	137
138		1 0																		0 1								4	3	1	25.0	3	138
139																				8 0								9	9	0	0.	2	139
140																												2	2	0	0.	1	140
141								1 0							1 0							19 4						30	26	4	13.3	5	141
142											1 0												30 0		5 0			27	27	0	0.	4	142
143											11 1												29 1		3 0			44	42	2	4.5	7	143
144			1 0					1 0			1 0				1 1		1 0			1 0			5 4					30	25	5	16.7	10	144
145												2 0														21 1		25	24	1	4.0	3	145
146																										17 2		19	17	2	10.5	1	146
147	1 0			1 0						1 0		1 0	1 0											1 0				22	22	1	4.4	11	147
148																																	148
149																												35	31	4	11.4	3	149
	68	109	172	4	62	1	4	42	5	372	69	11	151	42	397	25	40	3	87	92	5	27	103	28	76	48	2	4121					
	55	54	135	4	54	1	4	39	4	361	61	10	149	20	368	17	31	3	82	83	5	23	85	28	71	45	1	3060					
	13	55	37	0	8	0	0	3	1	11	8	1	2	22	29	0	9	0	5	9	0	4	18	0	5	3	1			461			
	19.1	50.5	21.5	0.	12.9	0.	0.	7.1	20.0	3.0	11.6	9.1	1.3	52.4	7.3	32.0	22.5	0.	5.7	9.8	0.	14.8	17.5	0.	6.6	6.3	50.0				11.2		
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48						

Marginal Number.	NAME OF COLLEGE.	1 Alabama.		2 Arizona.		3 Arkansas.		4 California.		5 Colorado.		6 Connecticut.		7 Delaware.		8 Dist. of Col.		9 Florida.		10 Georgia.		11 Idaho.		12 Illinois.		13 Indiana.		14 Iowa.		15 Kansas.		16 Kentucky.		17 Louisiana.		18 Maine.		19 Maryland.		20 Massachusetts.		21 Michigan.		Marginal Number.
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA.																																									
1	Birmingham Medical College.—R.	16	2															1	0	1	0																						1
2	Medical College of Alabama.—R.	26	2															2	0	1	0																						2
	ARKANSAS.																																									
3	Arkansas University Med. Department.—R.					1	0											1	0																								3
	CALIFORNIA.																																									
4	Cooper Medical College.—R.							19	7																																	4
5	University of California, Medical Dept.—R.							17	1																																	5
6	California Medical College.—E.							1	1																																	6
7	Hahnemann Med. Coll. of the Pacific.—H.							2	0																																	7
8	College of Physicians and Surgeons.—R.							6	7																																	8
9	Oakland College of Med. and Surgery.—R.							2	0																																	9
10	Univ. of Southern Cal., Coll. of Med.—R.			1	0			21	7															1	0																	10
11	Coll. of Phys. and Surg., Los Angeles.—R.							1	1																																	11
	COLORADO.																																									
12	Denver and Gross College of Medicine.—R.							1	0	15	0													1	0																	12
13	Westminster University Coll. of Med.—P.									5	0																															13
14	Colorado School of Medicine, Boulder.—R.							1	0	14	0											1	0																			14
	CONNECTICUT.																																									
15	Yale University Medical School.—R.									1	0	23	0			1	0																					1	0	3	0	15
	DISTRICT OF COLUMBIA.																																									
16	George Washington Univ., Dept. of Med.—R.					1	0	1	0							31	16																					7	3	1	1	16
17	Georgetown Univ., School of Medicine.—R.															10	4	1	0																			3	0	3	0	17
18	Howard University, Medical Department.—R.							0	1							7	7			4	0			2	0					2	0	1	0					5	2	1	0	18
	GEORGIA.																																									
19	Atlanta College of Phys. and Surgs.—R.	4	0															9	0	20	3																					19
20	Georgia Coll. of Eclectic Med. and Surg.—E.																			11	1																					20
21	Atlanta School of Medicine.—R.	0	1															2	0	16	1																					21
22	Medical College of Georgia.—R.																	0	1	21	0																					22
23	International Med. Miss. Coll.—R.																			1	0																					23
	ILLINOIS.																																									
24	American Medical Missionary College.—R.	1	0																			1	0	3	0													1	0	1	1	24
25	Bennett Coll. of Eclectic Med. and Surg.—E.							0	2													1	0	25	3	0	1	2	0	1	0										25
26	College of Medicine and Surgery.—Ph.M.																							1	1																	26
27	College of Phys. and Surg., Chicago.—R.	1	0					1	3	0	1							2	0			2	0	96	3	5	1	5	0									0	1			27
28	Hahnemann Med. College and Hospital.—H.							0	1			1	0											25	5	3	0			3	0										1	0	28
29	Hering Medical College.—H.									1	0													5	3																	29
30	Illinois Medical College.—R.					1	0																	12	1	3	1	0	1							1	0			1	0	30
31	Jenner Medical College.—R.																							16	6	0	1															31
32	Northwestern University Med. School.—R.					1	0	1	1	2	0							2	0			5	0	105	0	5	0	6	2									1	0			32
33	Rush Medical College.—R.			5	0	1	0	3	0	2	0											1	0	50	0	5	0															33
34	National Medical University.—P.																							13	4													0	1			34
35	Chicago Coll. of Med. and Surgery.—R.																							31	4	4	0	2	0													35
	INDIANA.																																									
36	Indiana Medical College.—R.			1	0					1	1													1	0	67	5															36
37	Physio-Medical College of Indiana.—Ph.M.																							1	1	6	0															37
38	Eclectic Medical College of Indiana.—E.																									3	2															38
39	Indiana University, School of Med.—R.																							1	0	24	0															39
	IOWA.																																									
40	Drake University, College of Medicine.—R.																											44	1													40
41	Keokuk Med. Coll. of Phys. and Surg.—R.			1	0																	1	0					28	3											41
42	Sioux City College of Medicine.—R.																											5	3											43	0	42
43	State Univ. of Iowa Coll. of Medicine.—R.							0	1													1	0					51	1													43
44	State Univ. of Iowa, Homeopathic Dept.—H.																											3	0													44
	KANSAS.																																									
45	Kansas Medical College.—R.																													14	0											45
46	University of Kansas, School of Med.—R.									1	0																			14	0											46
	KENTUCKY.																																									
47	Hospital College of Medicine.—R.																	1	0					1	1	3	1					13	4	4	1					1	0	47
48	Kentucky School of Medicine.—R.	2	1																					1	0	11	1	1	0			4	3			1	1					48
49	Louisville Medical College.—R.	3	0					1	0									1	0							2	0			1	0	8	1	3	0							49
50	Louisville National Medical College.—R.																			0	1											0	1									50
51	Southwestern Homeopathic Med. Coll.—H.					1	0																															0	1			51
52	University of Louisville, Medical Dept.—R.	5	0			2	0	0	1									1	0	2	2			6	1	6	1			4	1	10	1	5	0							52
	LOUISIANA.																																									
53	Flint Medical College.—R.																															11	1									53
54	Tulane University, Medical Department.—R.	4	2																			1	0									69	0									54
	MAINE.																																									
55	Medical School of Maine, Bowdoin Coll.—R.																																			16	0			2	0	55
	MARYLAND.																																									
56	Baltimore Medical College.—R.							0	1			2	3			0	2			2	0							1	1							3	0	9	7	16	12	56
57	Baltimore University, School of Med.—R.																			0	1															1	1	0	3	1	6	57
58	Coll. of Phys. and Surgs. of Baltimore.—R.	2	0									2	0													1	0									1	10	1	3	2		58
59	Johns Hopkins Medical School.—R.	5	0	1	0							3	0			1	1			2	0			1	0			1	0			2	0					31	1	3	0	1	0	59
60	Atlantic Medical College.—P.																																					10	0					60
61	University of Maryland, School of Med.—R.	2	0					0	2			1	1			0	1	2	0	3	0									1	0							32	7	1	0			61
62	Woman's Medical College of Baltimore.—R.																																					6	1					62
63	Maryland Medical College.—R.									0	1	2	1	1	2					1	0																	0	8	0	1			63
	MASSACHUSETTS.																																									
64	Boston University, School of Medicine.—H.											1	0					1	0																			4	0		11	1		64
65	College of Physicians and Surgeons.—R.									0	1			0	1																							4	0		9	7		65
66	Harvard University Medical School.—R.									1	1			1	0																							5	0	1	0	50	1	66
67	Tufts College Medical School.—R.									0	1			1	1																							8	0		48	4		67
	MICHIGAN.																																									
68	Detroit College of Medicine.—R.																																							67	3	68
69	Detroit Homeopathic Medical College.—H.																																							9	0	69
70	Univ. of Mich., Dept. of Med. and Surg.—R.	1	0	1	0			1	1									1	0									2	0	1	0	1	0	1	0			1	0	1	0	48	0	70
71	Univ. of Michigan, Homeopathic Dept.—H.																											1	0											10	0	71
	MINNESOTA.																																									
72	Univ. of Minn., Coll. of Med. and Surg.—R.																																									72
73	Univ. of Minnesota, Homeopathic Dept.—H.																																									73
74	Minnesota College of Phys. and Surgs.—R.																					1	0																			74
	MISSISSIPPI.																																									
75	Mississippi Medical College.—R.	1	0																																							75
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

| Marginal Number. | 22 Minnesota. | | 23 Mississippi. | | 24 Missouri. | | 25 Montana. | | 26 Nebraska. | | 27 Nevada. | | 28 New Hamp. | | 29 New Jersey. | | 30 New Mexico. | | 31 New York. | | 32 N. Carolina. | | 33 North Dakota. | | 34 Ohio. | | 35 Oregon. | | 36 Pennsylvania. | | 37 Rhode Island. | | 38 S. Carolina. | | 39 South Dakota. | | 40 Tennessee. | | 41 Texas. | | 42 Utah. | | 43 Vermont. | | 44 Virginia. | | 45 Washington. | | 46 West Virginia. | | 47 Wisconsin. | | 48 Wyoming. | | Totals. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of States Examined in. | Marginal Number. |
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Marginal Number.	NAME OF COLLEGE.	1 Alabama. P	1 Alabama. F	2 Arizona. P	2 Arizona. F	3 Arkansas. P	3 Arkansas. F	4 California. P	4 California. F	5 Colorado. P	5 Colorado. F	6 Connecticut. P	6 Connecticut. F	7 Delaware. P	7 Delaware. F	8 Dist. of Col. P	8 Dist. of Col. F	9 Florida. P	9 Florida. F	10 Georgia. P	10 Georgia. F	11 Idaho. P	11 Idaho. F	12 Illinois. P	12 Illinois. F	13 Indiana. P	13 Indiana. F	14 Iowa. P	14 Iowa. F	15 Kansas. P	15 Kansas. F	16 Kentucky. P	16 Kentucky. F	17 Louisiana. P	17 Louisiana. F	18 Maine. P	18 Maine. F	19 Maryland. P	19 Maryland. F	20 Massachusetts. P	20 Massachusetts. F	21 Michigan. P	21 Michigan. F	Marginal Number.
	MISSOURI.																																												
76	University Medical College, Kansas City.—R.							0	1																			0	2	19	4															76
77	Kansas City Hahnemann Med. College.—H.																					1	1			1	0			5	0													77
78	Eclectic Medical University.—E.																													8	0													78
79	Ensworth Central Medical College.—R.																					1	0					2	1	18	0													79
80	Barnes Medical College.—R.			0	2	2	1															2	0	20	4					5	3	0	1									80
81	St. Louis University, Med. Department.—R.					1	0			1	0											2	1	26	1	1	0	1	0	1	0			1	0							81
82	St. Louis Coll. of Phys. and Surgeons.—R.	1	0			1	0									0	1							22	3			0	1									0	1			82
83	American Medical College.—E.							0	1																															0	1	83
84	Homeopathic Med. College of Missouri.—H.					2	0																	3	0																	84
85	Washington University, Med. Dept.—R.					1	0	1	0													0	1	25	0																	85
86	University of Missouri, Dept. of Med.—R.																	1	0																							86
	NEBRASKA.																																											
87	University of Nebraska, Coll. of Med.—R.																							1	0					1	0											87
88	John A. Creighton Medical College.—R.																											10	6	0	1											88
89	Lincoln Medical College.—E.																							1	0					2	0											89
90	Nebraska College of Medicine.—R.																																									90
	NEW HAMPSHIRE.																																										
91	Dartmouth Medical College.—R.											3	0																							2	0			7	0			91
	NEW YORK.																																										
92	Albany Medical College.—R.									1	0	3	0																													92
93	College of Physicians and Surgeons.—R.																							1	0											1	0	0	1	4	0			93
94	Cornell University Medical College.—R.							1	0									1	0					2	0											1	0			3	0			94
95	Eclectic Med. Coll. of City of New York.—E.																																									95
96	Long Island College Hospital.—R.			1	0							1	0																									1	0			96
97	New York Homeo. Med. Coll. and Hosp.—H.							0	1			2	0			1	0											2	0													97
98	N. Y. Med. Coll. and Hosp. for Women.—H.																																									98
99	Univ. and Bellevue Hosp. Med. Coll.—R.							1	1			2	0					1	0	1	0			2	0													1	0			99
100	Syracuse University, Coll. of Med.—R.																																									100
101	University of Buffalo, Medical Dept.—R.																																										101
	NORTH CAROLINA.																																											
102	Leonard School of Medicine.—R.	3	1													0	1	2	0	2	1																	0	1			102
103	North Carolina Medical College.—R.																																									103
104	Univ. of North Carolina, Med. Dept.—R.	1	0															1	0																							104
	OHIO.																																										
105	Western Reserve Univ., Med. Dept.—R.																																										105
106	Cleveland College of Phys. and Surgs.—R.							1	0																																	106
107	Cleveland Homeopathic Medical College.—H.																																									107
108	Eclectic Medical Institute.—E.							1	0									2	0					3	0	2	1	1	0			1	0									108
109	Medical College of Ohio—R.																	1	0							2	0					2	1									109
110	Pulte Medical College.—H.																																										110
111	Miami Medical College.—R.																	1	0							1	0					2	0									111
112	Starling Ohio Medical College.—R.																							1	0					1	0									1	0	112
113	Toledo Medical College.—R.																																									113
	OREGON.																																											
114	University of Oregon, Med. Dept.—R.																																										114
115	Willamette University Medical Dept.—R.																																										115
	PENNSYLVANIA.																																											
116	Temple College of Medicine.—R.																																										116
117	University of Penn., Dept. of Med.—R.			1	0			2	1			1	0			1	0	1	0					1	0	1	0					1	0			2	0	10	0	1	0			117
118	Hahnemann Med. Coll. and Hospital.—H.							1	0							2	0											1	0									3	0	2	1			118
119	Woman's Med. Coll. of Pennsylvania.—R.			1	0			3	2			2	0	2	0			1	0	1	0	1	0	3	0			2	0							2	0	1	2	7	0			119
120	Jefferson Medical College, Philadelphia.—R.											1	0							1	0																	2	0	5	2			120
121	Medico-Chirurgical Coll. of Philadelphia.—R.							0	2			1	0									1	0	1	0									1	0	1	0	2	1	0	1			121
122	Western Pennsylvania Med. Coll.—R.																											1	1							1	0							122
	SOUTH CAROLINA.																																											
123	Med. Coll. of the State of So. Carolina.—R.																	0	1																							123
	TENNESSEE.																																											
124	Tennessee Medical College.—R.																																										124
125	Knoxville Medical College.—R.																			1	1																							125
126	University of Nashville, Med. Dept.—R.	15	1			1	0																	1	0							0	1	8	0							126
127	Vanderbilt University, Med. Dept.—R.	3	0			1	0													2	0													1	0							127
128	Univ. of Tennesse, Med. Department.—R.	6	1			0	2											1	0													1	2	1	0							128
129	Meharry Medical College.—R.	4	0			2	11											7	0	12	1					1	0			4	3	2	1	5	2			0	2		1	0	129
130	Memphis Hospital Medical College.—R.	7	1			1	1											1	0															18	0							130
131	Coll. of Phys. and Surgeons, Memphis.—R.	0	1			0	1													0	1													1	0							131
132	University of the South, Medical Dept.—R.	2	0			1	0											2	1	11	1													6	0	1	0			0	1			132
133	Chattanooga Medical College.—R.	11	2															2	0	3	5													0	2	2	0							133
134	Univ. of West Tennessee, Med. Dept.—R.					0	3																																			134
	TEXAS.																																											
135	Fort Worth University, Med. Dept.—R.																																											135
136	University of Texas, Dept. of Medicine.—R.																																											136
137	Baylor University, College of Medicine.—R.	2																		1	0													2	0							137
138	Gate City Med. Coll., Texarkana.—R.																			2	0																					138
139	Southwestern Univ. Med. Coll., Dallas—R.			1	0																																					139
140	Coll. of Phys. and Surgeons, Dallas.—R.					0	1																											2	0							140
	VERMONT.																																											
141	Univ. of Vermont, Medical Dept.—R.											3	0					1	0																					10	2			141
	VIRGINIA.																																											
142	Medical College of Virginia.—R.																	1	0																							142
143	University College of Medicine.—R.	1	0															1	0																					1	0			143
144	Univ. of Virginia, Dept. of Medicine.—R.	1	0			2	0									0	1	1	0	1	0	2	0	1	0	1	0							1	0							144
	WISCONSIN.																																											
145	Milwaukee Medical College.—R.																							1	0																	145
146	Wisconsin Coll. of Phys. and Surgs.—R.																																										146
147	Canadian Colleges							2	0	1	0	0	1									2	0	5	0			5	0							14	0			6	4			147
148	Foreign							1	2	1	0	0	1											2	1															3	1			148
149	Miscellaneous Medical Colleges	1	1	1	0																			24	2					2	0							1	0	5	3			149
	Totals by States	137		17		45		145		49		64		6		59		58		152		30		590		176		108		131		66		148		68		177		256		153		
	Totals—Examined—Passed	123		15		24		93		46		55		4		55		55		123		26		555		161		145		118		48		143		66		136		206		146		
	Totals—Examined—Failed	14		2		21		52		3		9		2		34		3		19		4		44		15		23		13		18		5		2		41		52		7		
	Percentage of Failures	10.2		11.8		46.7		35.9		6.1		14.1		33.3		38.2		5.2		12.5		13.3		7.3		8.5		13.7		9.9		27.3		3.4		2.9		23.2		20.2		4.5		
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

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		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	ALABAMA.																																									
1	Birmingham Medical College.—R.	1	0																																							1
2	Medical College of Alabama.—R.					1	0																																			2
	ARKANSAS.																																									
3	Arkansas University Med. Department.—R.																																									3
	CALIFORNIA.																																									
4	Cooper Medical College.—R.																																									4
5	University of California, Medical Dept.—R.			1	0																																					5
6	California Medical College.—E.			1	0																																					6
7	Hahnemann Med. Coll. of the Pacific.—H.																																									7
8	College of Physicians and Surgeons.—R.																																										8
9	Oakland College of Med. and Surgery.—R.																																									9
10	Univ. of Southern Cal., Coll. of Med.—R.																																									10
11	Coll. of Phys. and Surg., Los Angeles.—R.																																										11
	COLORADO.																																									
12	Denver and Gross College of Medicine.—R.																					1	0																					12
13	Westminster University Coll. of Med.—P.																																										13
14	Colorado School of Medicine, Boulder.—R.																																										14
	CONNECTICUT.																																									
15	Yale University Medical School.—R.																																									15
	DISTRICT OF COLUMBIA.																																									
16	George Washington Univ., Dept. of Med.—R.															1	0																									16
17	Georgetown Univ., School of Medicine.—R.							0	1																																	17
18	Howard University, Medical Department.—R.							0	1									1	0	1	0																					18
	GEORGIA.																																									
19	Atlanta College of Phys. and Surgs.—R.																			1	0							1	0													19
20	Georgia Coll. of Eclectic Med. and Surg.—E.																																									20
21	Atlanta School of Medicine.—R.																																									21
22	Medical College of Georgia.—R.																																									22
23	International Med. Miss. Coll.—R.																																									23
	ILLINOIS.																																									
24	American Medical Missionary College.—R.																																									24
25	Bennett Coll. of Eclectic Med. and Surg.—E.																									1	0															25
26	College of Medicine and Surgery.—Ph.M.																																									26
27	College of Phys. and Surg., Chicago.—R.							0	1															2	0	1	0															27
28	Hahnemann Med. College and Hospital.—H.			1	0	2	0	0	2															0	1	0	2	1	0													28
29	Hering Medical College.—H.																																									29
30	Illinois Medical College.—R.																																										30
31	Jenner Medical College.—R.																																									31
32	Northwestern University Med. School.—R.					1	0	1	0															2	0	1	0															32
33	Rush Medical College.—R.							1	0															4	0	0	1															33
34	National Medical University.—P.																																									34
35	Chicago Coll. of Med. and Surgery.—R.																							1	0																	35
	INDIANA.																																									
36	Indiana Medical College.—R.																									0	1															36
37	Physio-Medical College of Indiana.—Ph.M.																																									37
38	Eclectic Medical College of Indiana.—E.																																										38
39	Indiana University, School of Med.—R.																																									39
	IOWA.																																									
40	Drake University, College of Medicine.—R.																							1	0																	40
41	Keokuk Med. Coll. of Phys. and Surg.—R.			1	0			2	0	0	1													1	1															41
42	Sioux City College of Medicine.—R.																																									42
43	State Univ. of Iowa Coll. of Medicine.—R.							0	2																															43
44	State Univ. of Iowa, Homeopathic Dept.—H.																													0	1									44
	KANSAS.																																									
45	Kansas Medical College.—R.							0	1																					1	0									45
46	University of Kansas, School of Med.—R.																																									46
	KENTUCKY.																																									
47	Hospital College of Medicine.—R.																							1	0					1	0									47
48	Kentucky School of Medicine.—R.							0	1															1	0	2	0							1	0					48
49	Louisville Medical College.—R.							0	1											0	1					1	1			1	0			2	0					49
50	Louisville National Medical College.—R.																																									50
51	Southwestern Homeopathic Med. Coll.—H.																																									51
52	University of Louisville, Medical Dept.—R.																							0	1			1	0					0	1					52
	LOUISIANA.																																									
53	Flint Medical College.—R.																																										53
54	Tulane University, Medical Department.—R.							0	1									1	0																	1	0					54
	MAINE.																																										
55	Medical School of Maine, Bowdoin Coll.—R.							0	1															1	0												1	0				55
	MARYLAND.																																										
56	Baltimore Medical College.—R.															1	3																									56
57	Baltimore University, School of Med.—R.													0	1																							2	0				57
58	Coll. of Phys. and Surgs. of Baltimore.—R.			1	0																																				58
59	Johns Hopkins Medical School.—R.															1	0																						1	0		59
60	Atlantic Medical College.—P.																																									60
61	University of Maryland, School of Med.—R.					1	0	1	0													1	0																	61
62	Woman's Medical College of Baltimore.—R.																																										62
63	Maryland Medical College.—R.																																									63
	MASSACHUSETTS.																																										
64	Boston University, School of Medicine.—H.																																						2	0		64
65	College of Physicians and Surgeons.—R.																																										65
66	Harvard University Medical School.—R.							2	0																			1	0					1	0	1				66
67	Tufts College Medical School.—R.																																			1	0			0	1		67
	MICHIGAN.																																										
68	Detroit College of Medicine.—R.							1	1															0	1															68
69	Detroit Homeopathic Medical College.—H.																																										69
70	Univ. of Mich., Dept. of Med. and Surg.—R.							0	3															1	0															70
71	Univ. of Michigan, Homeopathic Dept.—H.							0	2																													2	0		71
	MINNESOTA.																																										
72	Univ. of Minn., Coll. of Med. and Surg.—R.							1	0															1	0															72
73	Univ. of Minnesota, Homeopathic Dept.—H.																																										73
74	Minnesota College of Phys. and Surgs.—R.																																									74
	MISSISSIPPI.																																									
75	Mississippi Medical College.—R.																																										75
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		

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		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	
	MISSOURI.																																									
76	University Medical College, Kansas City.—R.									1	0											1	0							2	0											76
77	Kansas City Hahnemann Med. College.—H.																																									77
78	Eclectic Medical University.—E.																																									78
79	Ensworth Central Medical College.—R.							0	1																																	79
80	Barnes Medical College.—R.	1	0			1	0											1	0					0	1											0	1					80
81	St. Louis University, Med. Department.—R.																																									81
82	St. Louis Coll. of Phys. and Surgeons.—R.																			1	0	2	0	1	0					1	0											82
83	American Medical College.—E.			1	0																																					83
84	Homeopathic Med. College of Missouri.—H.					1	0																																			84
85	Washington University, Med. Dept.—R.																	1	0																							85
86	University of Missouri, Dept. of Med.—R.							0	1																																	86
	NEBRASKA.																																									
87	University of Nebraska, Coll. of Med.—R.																																										87
88	John A. Creighton Medical College.—R.																																										88
89	Lincoln Medical College.—E.																																										89
90	Nebraska College of Medicine.—R.																																										90
	NEW HAMPSHIRE.																																									
91	Dartmouth Medical College.—R.											1	0																							1	0			1	1			91
	NEW YORK.																																										
92	Albany Medical College.—R.																					1	0																			92
93	College of Physicians and Surgeons.—R.			1	0			0	1			2	0					2	0					0	1													1	0			93
94	Cornell University Medical College.—R.																																									94
95	Eclectic Med. Coll. of City of New York.—E.																																									95
96	Long Island College Hospital.—R.							1	0															0	1																	96
97	New York Homeo. Med. Coll. and Hosp.—H					1	0																																			97
98	N. Y. Med. Coll. and Hosp. for Women.—H.																																									98
99	Univ. and Bellevue Hosp. Med. Coll.—R.							1	2			2	0					2	0																			3	0			99
100	Syracuse University, Coll. of Med.—R.																																									100
101	University of Buffalo, Medical Dept.—R.																																										101
	NORTH CAROLINA.																																									
102	Leonard School of Medicine.—R.																																									102
103	North Carolina Medical College.—R.																																									103
104	Univ. of North Carolina, Med. Dept.—R.																																									104
	OHIO.																																									
105	Western Reserve Univ., Med. Dept.—R.																																									105
106	Cleveland College of Phys. and Surgs.—R.																																										106
107	Cleveland Homeopathic Medical College.—H.							0	1																																	107
108	Eclectic Medical Institute.—E.							1	0											1	0									1	0											108
109	Medical College of Ohio—R.			2	0					1	0							1	0			1	0																			109
110	Pulte Medical College.—H.					1	0																																			110
111	Miami Medical College.—R.																													0	1											111
112	Starling Ohio Medical College.—R.																																									112
113	Toledo Medical College.—R.																																										113
	OREGON.																																									
114	University of Oregon, Med. Dept.—R.																																										114
115	Willamette University Medical Dept.—R.																																										115
	PENNSYLVANIA.																																									
116	Temple College of Medicine.—R.																																					0	1			116
117	University of Penn., Dept. of Med.—R.							1	2			1	0					1	0																							117
118	Hahnemann Med. Coll. and Hospital.—H.							2	2			1	0													1	0											2	0	1	0			118
119	Jefferson Medical College, Philadelphia.—R.			1	0	1	1	1	2																	1	0													1	0	1	119
120	Woman's Med. Coll. of Pennsylvania.—R.																																										120
121	Medico-Chirurgical Coll. of Philadelphia.—R.																											1	0													121
122	Western Pennsylvania Med. Coll.—R.			1	0																																					122
	SOUTH CAROLINA.																																									
123	Med. Coll. of the State of So. Carolina.—R.	1	0															1	0	1	0																					123
	TENNESSEE.																																									
124	Tennessee Medical College.—R.									1	0																															124
125	Knoxville Medical College.—R.																																									125
126	University of Nashville, Med. Dept.—R.	1	0			1	0																													0	1					126
127	Vanderbilt University, Med. Dept.—R.	1	0			1	0											0	1																							127
128	Univ. of Tennesse, Med. Department.—R.																	1	1																							128
129	Meharry Medical College.—R.																																										129
130	Memphis Hospital Medical College.—R.																																			3	1					130
131	Coll. of Phys. and Surgeons, Memphis.—R.																																									131
132	University of the South, Medical Dept.—R.																																					1	1					132
133	Chattanooga Medical College.—R.	1	0																	0	3																					133
134	Univ. of West Tennessee, Med. Dept.—R.																																									134
	TEXAS.																																									
135	Fort Worth University, Med. Dept.—R.																																									135
136	University of Texas, Dept. of Medicine.—R.																																									136
137	Baylor University, College of Medicine.—R.																																										137
138	Gate City Med. Coll., Texarkana.—R.																																									138
139	Southwestern Univ. Med. Coll., Dallas—R.																																									139
140	Coll. of Phys. and Surgeons, Dallas.—R.																																										140
	VERMONT.																																										
141	Univ. of Vermont, Medical Dept.—R.																									2	0											2	0			141
	VIRGINIA.																																									
142	Medical College of Virginia.—R.			1	0																																					142
143	University College of Medicine.—R.																																									143
144	Univ. of Virginia, Dept. of Medicine.—R.																																									144
	WISCONSIN.																																									
145	Milwaukee Medical College.—R.																																									145
146	Wisconsin Coll. of Phys. and Surgs.—R.																																										146
147	Canadian Colleges									1	0			1	0			1	0			1	0	1	0									1	0	1	0	1	1	1	0	147
148	Foreign	1	0	1	0			6	0	0	1	1	7							1	0					4	0	1	0	1	1					1	0			2		148
149	Miscellaneous Medical Colleges			1	0	3	1	2	2	1	0							4	2			2	1	1	0			0	1									1	0			149
	Totals by States	7		14		17		57		6		17		....		7		22		9		15		35		13		4		8		1		12		10		3		20		5	
	Totals—Examined—Passed	7		14		15		25		4		9		....		4		17		6		12		25		11		1		7		0		10		8		3		13		4	
	Totals—Examined—Failed	0		0		2		32		2		8		....		3		5		3		3		8		2		3		1		1		2		2		0		7		1	
	Percentage of Failures	0.		0.		11.8		56.1		33.3		47.1		....		42.9		22.7		37.3		20.		24.2		15.4		75.		12.5		100.		16.7		20.		0.		35.		20.	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

| Marginal Number. | 22 Minnesota. | | 23 Mississippi. | | 24 Missouri. | | 25 Montana. | | 26 Nebraska. | | 27 Nevada. | | 28 New Hamp. | | 29 New Jersey. | | 30 New Mexico. | | 31 New York. | | 32 N. Carolina. | | 33 North Dakota. | | 34 Ohio. | | 35 Oregon. | | 36 Pennsylvania. | | 37 Rhode Island. | | 38 S. Carolina. | | 39 South Dakota. | | 40 Tennessee. | | 41 Texas. | | 42 Utah. | | 43 Vermont. | | 44 Virginia. | | 45 Washington. | | 46 West Virginia. | | 47 Wisconsin. | | 48 Wyoming. | | Totals. | Examined—Passed. | Examined—Failed. | Percentage of Failures. | No. of States Examined in. | Marginal Number. |
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Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

May 16.

1 *Occurrence of Epileptiform Attacks in Diabetes Mellitus. L. A. Conner, New York.
2 Surgical Treatment of Alveolar Pulmonary Emphysema. C. Goodman and S. Wachsmann, New York.
3 *Plea for Stricter Prophylaxis and More Scientific Management of Obstetric Cases in Tenement House Practice. E. K. Brown, New York.
4 *Air-Borne Infections. Their Mode of Entrance, Preventive, Abortive and Ameliorative Treatment. W. S. Bryant, New York.
5 Problem Which Confronts the Otologist in Treatment of Chronic Catarrhal Deafness. C. M. Cobb, Boston, Mass.
6 *Nitroglycerin in Treatment of Neuritis. H. B. Stevenson, Rider, Md.

1. Epileptiform Attacks in Diabetes Mellitus.—Conner summarizes his paper as follows: Although some of the epileptiform attacks which occur in the course of diabetes are manifestly due to other associated conditions (uremia, cerebral softening, meningitis, etc.), a certain proportion of them are unquestionably related directly to the diabetes itself and are the expression of some form of diabetic intoxication. Such attacks may simulate closely the general convulsions of true epilepsy, or they may be distinctly Jacksonian in character and be limited to one side of the body or to certain groups of muscles. These localized convulsions are usually associated with transient paralysis of the affected muscles, aphasia, sensory disturbances, or other symptoms suggestive of a circumscribed brain lesion, and may thus lead to serious errors in diagnosis. The convulsions may appear only during the terminal coma, or they may be repeated at frequent intervals for days or weeks before coma develops, or finally, they may cease with improvement of the diabetic symptoms. The association of such epileptiform attacks with the signs of acid intoxication is by no means constant. In several of the cases it is certain that no such acidosis existed. It seems probable, therefore, that the cause of the convulsive attacks must be sought for in some other form of diabetic intoxication.

3. Tenement House Midwifery.—Brown describes the condition of tenement house midwifery in New York, and insists on the necessity of discarding the old *laissez-faire* methods in obstetrics and attending to the antepartum prophylaxis by pelvimetry, proper nursing and aseptic conditions. The large infantile and maternal mortality of symphyseotomy render Cesarean section still the operation of selection. There must be a campaign of education and enlightenment among the child-bearing women of the poor.

4. Air-Borne Infections.—Bryant considers the first tonsil or adenoid the portal of invasion in almost all infectious diseases, and for a time at least the seat of primary local infection. He therefore considers that the prevention of such diseases can be effected by care and treatment directed to the first tonsil.

6. Nitroglycerin in Neuritis.—Stevenson reports thirty-two cases of neuritis treated with nitroglycerin after the method suggested by Krauss of Buffalo. Beginning with 1/100 of a grain every eight hours the interval was reduced one hour in every twenty-four until the full physiologic action of the drug was manifest, or the patient was taking 1/100 of a grain every three hours, at which interval it was continued. Sodium bromid controls the flushing and headache. In acute cases the effect was marked within forty-eight hours. In chronic cases, ammonium and potassium iodid in progressively increasing doses hastened the action of the nitroglycerin. The actual cautery was also used over the nerve.

Boston Medical and Surgical Journal.

May 14.

7 *Comparative Study of Tsutsugamushi Disease and Spotted or Tick Fever of Montana. P. M. Ashburn and C. F. Craig, U. S. Army.
8 *Value of Measurements of Chest Expansion. H. W. Goodall and J. L. Belknap, Boston.
9 *Extraintestinal Origin of Hydrobilirubin. A. E. Austin and M. D. Ordway, Boston.
10 Lipoma Arising from the Brachial Plexus; Review of Some Rare Forms of This Tumor. W. P. Coues, Boston.

7. Tsutsugamushi Disease and Spotted Fever.—Ashburn and Craig compare the Japanese river fever or blood fever with the Rocky Mountain fever, or spotted fever of Montana. Some writers seem to consider these diseases identical. As to the etiology of the Japanese disease, three hypotheses at present obtain: 1. That the disease is due to a bacterium, a belief favored by the workers of the Institute for Infectious Diseases. 2. That it is a protozoal infection. Professor Ogata is the leading exponent of this idea. 3. Tanaka thinks the disease due to a toxin contained in the body of the red mite. The authors then discuss comparatively and in detail the etiology, symptoms, blood examination, mortality, immunity conferred by attack, susceptibility of animals, pathologic anatomy, prognosis, diagnosis, prophylaxis and treatment of these diseases, and report seven cases of the Japanese disease. They conclude that these diseases are separate and distinct entities, and that though they present many points of resemblance they do not show enough of them to overbalance those of difference. They report cases occurring in the Philippines which, while they can not assert them to be cases of tsutsugamushi, they consider present enough points of resemblance to render the subject one for investigation by physicians practicing there.

8. Chest Expansion.—Goodall and Belknap conclude from their experiments that mensuration of the chest alone does not give an accurate measurement of respiratory capacity. To be of any value, corresponding abdominal measurements must be taken in order to determine, as nearly as possible, the position of the diaphragm, the chief respiratory agent. As much as 50 per cent. of the increase in chest circumference during maximum expansion may be due to change in the shape of the thoracic cavity due to muscular contractions alone. From these two facts it is evidently erroneous to conclude from chest measurement alone that a supposedly healthy individual with a chest expansion of less than two inches has a diminished respiratory capacity, or that an individual with an expansion of two inches or more necessarily has a normal respiratory capacity.

9. Hydrobilirubin.—Austin and Ordway, as a result of investigations, conclude that the liver does not form urobilin. They reach the following conclusions: 1. When no bile enters the intestine (absence of urobilin in feces and urine) urobilin may occasionally be found in fistula bile. 2. This is not due to the conversion of bilirubin to urobilin by the blood; what effect cells actively may have on it we do not yet know. 3. It is evident that the liver does not form urobilin, or it would be oftener found when complete closure of the common duct occurs. 4. If urobilin is ever regenerated to bilirubin, it is probably not an oxidative process, as so often stated. 5. As cholecystitis is often accompanied by bacterial infection of the gall bladder, from which these germs may easily make their way into the liver and there exercise their functions as in the intestines, the query appears a just one, if the formation of urobilin other than in the intestine may not be due to bacterial infection.

New York Medical Journal.

May 16.

11 *Diagnostic Value of Symptoms of the Larynx, Pharynx and Nose in Nervous Diseases. T. J. Harris, New York.
12 *Hysteria and the Re-Education Method of Dubois. S. E. Jelliffe, New York.
13 The Medical Profession's Duty to the Children of America. L. T. Royster, Norfolk, Va.
14 Association of Tuberculosis of the Lungs with Diabetes Mellitus. H. L. Shively, New York.
15 Association of Tuberculosis Clinics of the City of New York. J. A. Miller, New York.
16 Transfusion: History, Development, Present Status and Technic of Operation. G. M. Dorrance and N. Ginsburg, Philadelphia.
17 Incongruities in the Medical Profession. L. S. Oppenheimer, Tampa, Fla.
18 Chronic Diarrhea Accompanied by Pyloric Insufficiency. E. Paller, New York.

11. Laryngeal Symptoms in Nervous Diseases.—Harris describes the innervation of the larynx. He then applies these considerations practically to diagnosis in regard to tabes dorsalis; multiple sclerosis; syringomyelia; progressive bulbar paralysis; progressive muscular atrophy; neuroses; paralysis agitans; hysteria in (a) laryngeal spasm, (b) nervous laryngeal cough; and disturbances of co-ordination during phona-

tion, (a) dysphonia spastica, (b) the paretic manifestations of inco-ordination known as aphonia. The author concludes: 1, That pharyngo-laryngeal symptoms in nervous diseases are deserving of more attention on the part of the neurologist than they have received up to the present; and 2, that no field offers greater opportunity to the laryngologist for original study and research than that which embraces the innervation of the larynx.

12. **Hysteria and Re-Education.**—Jelliffe discusses hysteria thoroughly in all its aspects. From his study of the subject he concludes that we have arrived at a moral conception of hysteria, which seems to be the logical termination of a study which has for its object pathologic manifestations of the mind which are most intimately bound up with the moral personality of man. If psychology is absolutely indispensable for the analysis of the mechanism of hysterical phenomena, and we have full justification for those methods of study as outlined by Freud, Jung, Janet and others, it can not in itself alone resolve the complex problem of the origins of the hysterical modification of mentality. To all psychologic conceptions of hysteria there must be associated a moral conception of it. It is chiefly this moral conception which ought to inspire all rational treatment of hysteria, such as has been indicated by Dubois in maintaining for the psychoneuroses a moral treatment in the highest sense of the word. The psychologic analysis alone is but a step in the process toward reaching, from the therapeutic point of view, anything but partial results and the suppression of such and such symptoms. To get at hysteria in its very origin, one must penetrate profoundly into the personality of the patient. He must be helped to reconstruct his mental synthesis on the basis of good logic, and to reconstruct his moral education, a complicated and often arduous task, but in Dubois' terms it is a true treatment of the soul which no physician could repudiate to-day.

Lancet-Clinic, Cincinnati.

May 9.

19 Ambroise Paré; a Surgeon of the Sixteenth Century. S. C. Ayres, Cincinnati.
20 Opsonic Treatment in Gonorrheal Arthritis. A. Ravogli, Cincinnati.
21 Acute Bronchitis in Children. W. W. Pennell, Mt. Vernon, Ohio.
22 Congenital Deficiency of Extrinsic Ocular Muscles. J. S. Wyler, Cincinnati.
23 Nursing as a Profession. J. L. Ransohoff, Cincinnati.

Journal of the South Carolina Medical Association, Greenville.

April.

24 Keratoderma Palmaris et Plantaris. I. Schayer, Laurens, S. C.
25 Diagnosis and Early Treatment of Appendicitis. G. R. Dean, Spartansburg.
26 Headache as a Symptom. L. O. Mauldin, Greenville.
27 Pseudomyxoma Peritonei. A. B. Knowlton, Columbia.
28 Sea Bather's Ear. C. W. Kollock, Charleston.

American Journal of Physiology, Boston.

May.

29 *Direct and Reflex Response of the Cardioinhibitory Center to Increased Blood Pressure. J. A. E. Eyster and D. R. Hooker, Baltimore.
30 *Antagonistic Action of Calcium on the Inhibitory Effect of Magnesium. S. J. Meltzer and J. Auer, New York.
31 Equilibrium Between Carbonic Acid, Sodium Bicarbonate, Monosodium Phosphate, and Disodium Phosphate at Body Temperature. L. J. Henderson and O. F. Black, Boston.
32 *Theory of Neutrality Regulation in the Animal Organism. L. J. Henderson, Boston.
33 *Action of Strontium Compared with that of Calcium and Magnesium. S. J. Meltzer and J. Auer, New York.
34 *Vasomotor Changes in the Cerebral Vessels Obtained by Stimulating the Carotid Plexuses. C. J. Wiggers, Ann Arbor.
35 Effect of Hemorrhage on the Vasomotor Reflexes. W. T. Porter and H. K. Marks, Boston.

29. **Slowing of the Pulse from Increased Blood Pressure.**—Eyster and Hooker find that the slowing of the heart in consequence of increase in the blood pressure is due to the action of the cardio-inhibitory center, through inhibitory fibers which run in the vagus, since the effect persists after section of the accelerator or depressor nerves. The inhibiting action is brought about, either by the direct effect of increased pressure in the vessels supplying the cardio-inhibitory nerves, or reflexly by the stimulation of peripheral nerves in the vessels. The increase of pressure in the ventricle has little or no effect but the principal source of this reflex seems to be the thoracic aorta. This reflex stimulation may disappear while the effect of direct pressure on the blood vessels in the cardio-inhibitory center still remains. The mechanism by which this slowing of the pulse is brought about is delicate, and may be much disturbed or abolished by the abnormal conditions to which the research animal is necessarily subjected, especially if these are much prolonged.

30. **Antagonism of Calcium and Magnesium.**—Meltzer and Auer find that calcium injected intravenously antagonizes the inhibitory and paralyzing actions of magnesium, restoring the unconscious and paralyzed animal to normal activity after fatal doses of magnesium salts, unless the dose of the magnesium salt has been very large. Calcium efficiently antagonizes the abnormal activity of its three inorganic associates in the animal body, magnesium, potassium and sodium, whether the abnormal action shows itself as over-inhibition or as over-excitation. The antagonism of calcium to magnesium is a phenomenon common to animals and plants. The facts, as known at present, are still in harmony with the theory that magnesium favors essentially inhibitory processes in the animal body.

32. **Neutrality Regulation.**—Henderson's work is not easily abstracted, but it tends to show that the constitution of the animal fluids provides such a balance of acid and alkaline constituents as give them nearly the highest efficiency which can occur in isolated aqueous solution, for the preservation of neutrality.

33. **Effects of Strontium.**—Meltzer and Auer find that the effects of strontium differ strikingly from those of magnesium; it does not cause anesthesia and does not affect sensibility and the reflexes. The paralysis which it causes develops very slowly, and only after very large doses given subcutaneously. It does not neutralize the inhibitory effect of magnesium, as calcium does, nor are its effects antagonized by calcium but rather increased.

34. **Vasomotor Reflexes After Hemorrhage.**—The observations of Porter and Marks indicate that the blood pressure may be reduced almost to zero without materially impairing the reflex power of the vasomotor cells, provided the animal be motionless in the horizontal position. Under the influence of gravity a reverse current sets in by way of the veins through the bulbar capillaries, providing the vasomotor center with food, poor it is true, but better than none.

Interstate Medical Journal, St. Louis.

April.

36 *Hernia: A General Study, Especially Its Medicolegal Elements. W. B. Outten, St. Louis.
37 *Injuries to the Eyes of the Child Incident to Instrumental Delivery. J. Green, Jr., St. Louis.
38 *Relation of Instrumental Delivery to Trauma of the Child's Nervous System. S. I. Schwab, St. Louis.
39 Coxa Valga; Ununited Fracture of the Femoral Neck; Report of Two Cases. N. Allison, St. Louis.
40 History of the House: the struggle for Fresh Air and Light. (Concluded.) G. M. Gould, Philadelphia.

36. **Hernia.**—Outten, from a vast experience of railroad work and injuries, discusses the question of traumatic hernia. After a brief but interesting history of hernia from the time of Celsus, he reviews the five principal types of radical operation, and then proceeds to consider the assertion of Kingdon, that "hernia is a disease and not an accident; that it is a pathologic condition and not merely a mechanical lesion." He gives statistical and other reasons in support of the proposition that "any surgeon who has made a careful study of the surgery of violence, that is, railway and allied injuries, must and will come to the conclusion that traumatic hernia is so extremely uncommon as to leave doubt as to its verity in almost every case."

37. **Obstetrical Forceps and Eye Injuries.**—Green collects the various kinds of injuries to the eyes recorded as due to the use of the forceps, and estimates their importance from the points of view of the ophthalmologist in regard to severity and frequency, and of the obstetrician in relation to the absoluteness of the indication for forceps on behalf of the mother and the child, and to the result on maternal and fetal morbidity and mortality. He concludes that "the possibility of injury to the infant's eyes can hardly weigh as a serious

contraindication to the employment of obstetrical forceps, but the possibility of such injury should always be borne in mind by those who attend women in confinement." We must remember that on the accoucheur rests the responsibility of two lives. Viewed in this light even the loss of an eye seems trivial compared with the possible sacrifice of the mother's and baby's life.

38. **Instrumental Delivery and Nervous Injuries.**—Schwab, in discussing the frequency and importance of injuries to the child's nervous system in instrumental delivery, points out that there is always one unknown factor in this inquiry, viz., the condition of the child before the mechanism of birth is set in action. He discusses the various conditions that have been attributed to the use of forceps, and says that prenatal pathology could no doubt explain many of the symptom complexes that have been attributed to the act of birth itself and to the manipulations accompanying it.

Northwestern Lancet, Minneapolis.

April 1.

41 *Misconceptions Concerning Insanity. R. M. Phelps, Rochester.
42 X-Ray Therapy. W. P. Roberts, Sioux Falls, S. D.
43 *Syphilitic Simulation of Malignancy. J. C. Stewart, Minneapolis.
44 Technic of the Intranasal Method of Operating for Chronic Empyema of the Maxillary Sinus. W. R. Murray, Minneapolis.
45 The Physician's Problem. E. O. Giere, Madison, Minn.
46 Case of Impalement Injury from Pitchfork Handle. A. N. Bessesen, Minneapolis.

April 15.

47 Fracture of the Elbow Joint. J. W. Andrews, Mankato, Minn.
48 Ulceration of the Stomach. H. W. Sherwood, Doland, S. D.
49 *Association or Confusion of Appendicitis with Other Diseases of the Female Pelvis. A. E. Benjamin, Minneapolis.
50 Empyema Pleuræ. J. A. Thabes, Brainerd, Minn.

41. **Insanity.**—Phelps remarks on the number of misconceptions of practical importance and affecting the character of many important decisions in active life which constantly obtrude themselves. These are: 1, A common idea that there are in our hospitals many seniles who are not insane or who at least are not deserving of commitment; 2, that commitment should depend on the fact or degree of insanity, whereas in point of fact it is the trouble patients cause that is the cause for commitment; 3, the assumption that insanity shuts out intelligence; 4, that acute cases are more frequent than they really are; 5, that delusions are needful to prove insanity; 6, that a distinct line separates insanity from sanity; 7, that insanities are entities; 8, that defectiveness is not insanity; 9, that there are no fatal results in insanity; 10, that a large proportion of the insane in Minnesota come from the foreign born; 11, erroneous opinions concerning heredity.

43. **Syphilitic Simulation of Malignant Disease.**—Stewart reports two cases which lead him to remark on the constant confusion of syphilis with tuberculosis, malignant and other diseases, in view of the great and increasing prevalence of syphilis ,and he urges recourse to the therapeutic test of iodid in doubtful cases of late syphilis.

49. Abstracted in THE JOURNAL, Feb. 1, 1908, p. 397.

Cleveland Medical Journal.

April.

51 Benign and Malignant Tumors of the Female Mammary Gland with Reference to Early Diagnosis. A. F. House, Cleveland.
52 *Theories of Sex Determination Resting on a Cytologic Basis. M. W. Blackman, Cleveland.
53 *Blennorrhea of the Eye. J. Stotter.
54 Outing Work Among the Children of the Poor in Cleveland with Report of the Findings in the Medical Examination of 1,071 Children. J. Phillips, Cleveland.

52. **Sex Determination.**—Blackman discusses various theories of sex determination, namely, that common among both scientific men and the laity, that sex is subject to control through the environment of the developing organisms, especially through the regulation of the nutrition of the mother; McClung's theory that the accessory chromosome is the bearer of those qualities which pertain to the male organism—that is, that an egg fertilized by a spermatozoon containing the accessory chromosome will develop into a male, while an egg which copulates with a spermatozoon having no accessory chromosome will develop into a female; Wilson's observations, which lead him to alternative conclusions; and Castle's theory. Blackman concludes that from psychologic data it seems nearly certain that one or other of Wilson's alternatives is true, as the validity of the data on which they are based can hardly be assailed; for a number of independent investigators have confirmed the observations and extended them to a large number of forms.

53. **Blennorrhea of the Eye.**—Stotter discusses the prevalence of ocular blennorrhea and urges the inclusion of the disease as a communicable disease within the meaning of the acts requiring report to the health authorities. He also urges the addition of a provision to the act, such as is in vogue in many European cities, requiring any midwife noticing a redness or swelling in the eyes of the new-born, accompanied with secretion, however slight, to call a physician to attend the case.

American Journal of Surgery, New York.

April.

55 *Point in the Technic of Appendicectomy. H. Lilienthal, New York.
56 *Nature of Colic and Remarks Concerning Its Diagnostic Value. G. F. Shiels, New York.
57 Uterine Fibroids Complicating Pregnancy. C. C. Barrows, New York.
58 Blood Examination in Surgical Diagnosis. A Practical Study of Its Scope and Technic. I. S. Wile, New York.
59 Early Restoration of Function After Excision of the Tuberculous Elbow Joint. G. G. Cottam, Rock Rapids, Iowa.
60 Treatment of the Bladder After Suprapubic Cystotomy for Stone. W. C. Goldsmith, Atlanta, Ga.
61 Gastroenterostomy. J. Darrington, Yazoo City, Miss.
62 Matas' Operation; Report of Four Cases. C. Barrow, Savannah, Ga.
63 Cesarean Section; Report of Two Cases. E. J. Johnson, Yazoo City, Miss.
64 Two Cases of Complicated Uterine Prolapse; Complete Prolapse of Uterine Fibroid; Ovarian Cyst Complicating Second Degree Prolapse. W. Krusen, Philadelphia.
65 Fecal Fistula Following Appendicectomy, with Report of Three Cases. J. B. Bissell, New York.
66 Treatment of Fracture of the Hip, with Special Reference to Whitman's Method. C. N. Cowden, Nashville, Tenn.

55. **Appendicectomy.**—Lilienthal uses the following method to avoid the danger of shock consequent on handling the intestines in appendicectomy: Through a small incision made in the locality preferred by the operator, a gloved finger is inserted, locating the cecum; a portion of this viscus is withdrawn with dressing forceps, and landmarks are followed in the usual way to locate the base of the appendix. During this procedure there will be a little unavoidable handling of intestine outside of the abdomen. Having exposed the base of the appendix, a ligature is passed through the mesenteriolum, to be used subsequently for ligating the organ; the ends of this ligature are left long, and are tied together or held with a clamp. The exposed part of the appendix and all other intestines are now returned to the abdominal cavity. When traction on the ligature is made the base of the appendix, and nothing more, is brought into the wound. In the majority of cases it will then be found extremely simple to deliver the entire appendix, even though a considerable number of adhesions should be encountered. The ligation of the mesenteriolum, the ablation of the appendix, and the treatment of the stump are carried out in the usual manner. During the procedure of freeing and removing the appendix this organ and nothing else is in the field.

56. **Colic.**—Shiels discusses the various interpretations of the nature of colic, and endeavors to show that colic is a characteristic, acute, spasmodic, peritoneal pain wave, most frequently, but not always, associated with an effort of a hollow viscus or structure, whose muscular walls are of the smooth or non-striated variety, to rid itself of an irritant or obstruction; such viscus or structure being either covered by, or in close relationship to, the peritoneum.

Journal of the Medical Society of New Jersey, Orange.

March.

67 Medical Inspection of Schools. R. P. Francis, Montclair.
68 *Epidemic Paralysis in Children. H. D. Chapin, New York.
69 *Appendicitis Described by the Early Writers. E. J. Ill, Newark.
70 *Incipiency in Tuberculosis from Standpoint of the Sanatoria. H. B. Dunham, Glen Gardner.
71 *Classification of Cases of Appendicitis. J. J. McGrath, New York.
72 President's Address Before Camden County Medical Society. A. H. Lippincott, Camden.

68. **Epidemic Paralysis in Children.**—Chapin differentiates the epidemic from the endemic form as follows: 1, Epidemic is occasionally fatal, endemic rarely, if ever; 2, epidemic forms show great variations in extent of paralysis; 3, pain is more severe and more enduring in the epidemic form; 4, a certain proportion of complete recovery is seen in the epidemic form, rarely, if ever, in the endemic; 5, the lesion is more varied and extensive in the epidemic form, and may include polioencephalitis of Strümpell, poliomyelitis, peripheral neuritis, and occasionally meningitis.

69. **Appendicitis.**—Ill reproduces a remarkable pathologic report of a case of appendicitis from the work of Lawrence Heister, published in 1750.

70. Published in the *Medical Record*, Feb. 8, 1908, and abstracted in THE JOURNAL, Feb. 22, 1908, page 641.

71. This article appeared in the *Medical Record*, Feb. 1, 1908.

Northwest Medicine, Seattle.

April.

72 Gastrogenic Intestinal Disease. N. W. Jones, Portland, Ore.
74 Infected Wounds. W. C. Cox, Everett, Wash.
75 Should We Expect Aseptic Results in Emergency Surgery? W. S. Durand, Everett, Wash.
76 Tumors of the Mediastinum, with Report of Mediastinal Dermoid Cyst. F. Hinman, Spokane, Wash.

St. Paul Medical Journal.

April.

77 *Diagnosis of Cardiospasm. W. Lerche, St. Paul.
78 Therapeutic Tendencies. R. T. Edes, Reading, Mass.
79 *Primary Mastoiditis with Objective Tinnitus Aurium. S. M. Smith, Philadelphia.
80 Pathologic Changes in Old Dislocations of the Elbow and Their Bearing on Operative Treatment; Paralysis Due to Elastic Tourniquet. A. R. Colvin, St. Paul.

77. **Cardiospasm.**—Lerche describes and figures an apparatus of his own devising for determining the capacity of the esophagus which he uses in the diagnosis of cardiospasm. He describes cases of idiopathic and secondary cardiospasm.

79. **Primary Mastoiditis.**—Smith says that cases that develop during a middle-ear disease or occur after the same has run its course can not properly be described as primary, though bacterial infection primarily attacking the nasopharynx and tympanum, may, in its migratory passage to the mastoid, produce temporary inflammation of the tympanic cavity. His belief is that the so-called primary cases are of this nature. The only cases of mastoiditis to which we are justified in applying the term primary, are those occurring by metastasis or resulting from trauma. Smith is of opinion that in the cases in which the chief symptom is continuous, prolonged pain, the diploe is first involved, the resultant osteomyelitis slowly extending, externally involving the cortex, and internally complicating the pneumatic cells. He describes an unusual case.

Journal Missouri State Medical Association, St. Louis.

April.

81 *Digital Insalivation and Its Influence in the Spread of Disease. G. Homan, St. Louis.
82 Insanity. G. W. Robinson, Nevada.
83 Infantile Paralysis (Acute Atrophic Paralysis, Acute Anterior Poliomyelitis). V. A. Bles, St. Louis.
84 Infantile Intussusception. J. D. Brummall, Salisbury.
85 Medical Education, Preliminary and Professional. H. E. Dunlop, Canton.

81. **Licking the Fingers.**—Homan cogently draws attention to the importance of the nasty practice of licking the fingers for turning over pages, etc., as a cause of disease, next only to the danger of promiscuous spitting. Healthy persons may infect themselves by germs carried from their own fingers to their mouths, and as specific organisms are often present in the mouths of persons in a fair state of health, they may also transfer them in this way to other people. It is well known that money, papers, books, etc., carry active germs. Employés in official life who persist in this habit should be deprived of their positions.

Atlanta Journal-Record of Medicine.

April.

86 Rest in the Treatment of Bright's Disease. H. F. Harris, Atlanta.
87 *The Value of Determining the Opsonic Index in the Treatment of Chronic Infections with Vaccines. J. E. Paullin.
88 Observations in 271 Cases of Mastoiditis. F. P. Calhoun, Canton, Ohio.
89 Excesses of Modern Times and Their Relation to Disease. M. M. Hull, Atlanta.
90 President's Address Before California Association for Study and Prevention of Tuberculosis. C. B. Boothe.
91 Hypospadias; Pseudohermaphrodite. E. G. Ballenger, Atlanta.
92 Spring Coughs. J. Burke, Manitowoc, Wis.

87. **The Opsonic Index.**—Paullin, in a communication from the laboratory of the state board of health, considers the practicability and feasibility of determining the opsonic index in reference to the administration of vaccines. He gives the results of his own investigations into this matter, which have led him practically to abandon the determination of the index, and he is satisfied that observation of the clinical condition of the patient is often enough to show whether administration of the vaccine is necessary or not. His experience with vaccine therapy amounts to about 50 cases of tuberculous lymph glands, tuberculosis of bone and skin, furunculosis, chronic empyema, chronic pustular acne, and chronic gonorrheal arthritis, in which he has administered vaccines without determining the index. The improvement has been marked, and he holds that the administration of vaccines can be carried out as satisfactorily without as with the determination of the opsonic index.

Journal of Inebriety, Boston.

Vol. XXX, No. 1.

93 Inebriety: Its Causation and Control. R. W. Branthwaite, London.
94 Poison Tolerance. M. Kassowitz, Vienna.
95 Action of Alcohol on Sight. G. B. Cutten, Columbus, Ohio.
96 *What Is Morphin Disease? C. W. Carter, Richmond, Ind.
97 Experimental Effect of Tobacco on the Nervous System. L. P. Clark, New York.
98 Psychical Aspects of the Morphin Addict. J. L. Bowman, Union Springs, Ala.

96. This article appeared in the *Lancet-Clinic*, May 2, 1908.

Denver Medical Times.

May.

99 Teaching Regarding Sex in the Public Schools. E. Jackson, Denver.
100 Social Hygiene in Relation to Abortion. M. Hawes, Denver.
101 The Social Evil in Non-Christian Lands. M. E. V. Fraser, Denver.
102 The Social Evil Among Modern Christian Nations. C. G. Hickey, Denver.
103 The Colorado Society for Social Health. M. E. Bates, Denver.
104 Sexual Desire in Tuberculous Patients. L. P. Barbour, Rocky Ford.
105 Present Treatment of Puerperal Sapremia and Puerperal Sepsis. J. E. Cannaday, Hansford, W. Va.

Utah Medical Journal, Denver.

May.

106 Surgical Treatment of the Prostate Gland. E. Viko, Salt Lake City.
107 Scientific Treatment of Diabetes Mellitus. W. R. Tyndale, Salt Lake City.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

May 2.

1 *Influence of Pregnancy on Certain Medical Diseases and of Certain Medical Diseases on Pregnancy. H. French.
2 *Special Psychology of Women. T. C. Shaw.
3 Ophthalmia Neonatorum: An Experiment in Treatment. A. N. Walker and A. A. Mussen.
4 Treatment of Trachomatous Dacryocystitis. T. H. Butler.
5 Pathology and Treatment of Inguinal Hernia in Children. C. H. Fagge
6 Disseminated Sclerosis Commencing with Failure of Vision. R. T. Williamson.
7 *Rectal Administration of Antitoxic Sera. J. P. Parkinson.
8 Motoring Notes. C. T. W. Hirsch.

1. **Pregnancy and Medical Diseases.**—French treats of herpes gestationis and its allied conditions, impetigo herpetiformis, eczema and psoriasis, in relation to pregnancy, and discusses the pyelonephritis of pregnancy.

2. **Psychology of Women.**—Shaw makes a detailed comparison of the mental attributes of the sexes, with the result that he considers the points of resemblance as existing essentially while those of divergence are the result of education, training, environment, and other adventitious circumstances, in short, are artificial. The three main points which have hitherto been relied on as evidencing "inferiority" he enumerates as: 1, submission to authority; 2, a smaller range of

idealism, and 3, a more delicate and, therefore, less strong bodily organization. He essays to show that under altered conditions of education and environment these stigmata of "inferiority" have almost disappeared among women. He discusses woman's attitude to dress, and aptly says: "The psychology of dress is that it makes you think that you are what you profess to be. That is why the common soldier is never allowed to appear out of uniform and why the priest always wears his black clothes and white tie." A very important part of his theme is what he considers the popular error that mind in either sex is something very complicated, very profound, whereas "as a rule, thinking is a very simple thing, scarcely more than a reflex. . . . Many an action that looks like a manifestation of intelligence most surely originates in association."

7. **Rectal Administration of Antitoxic Sera.**—Parkinson describes the technic as follows: A cleansing enema is unnecessary unless there is much constipation. The patient lies on the left side and a No. 6 Jacques catheter, having attached to it the barrel of a glass urethral syringe into which the serum is poured, is passed as far as possible into the rectum. Usually gravity is sufficient, but if not the piston can be used. The patient should continue lying for a quarter of an hour. Parkinson's experience of this method, which he published some six years ago, leads him to claim rapid and frequent improvement, absence of any of the untoward accidents that have been reported after subcutaneous injection, and avoidance of the objection made by some to the needle. To the objection that the antitoxin would not be absorbed, he replies that the existence of ascending currents in the mucous canals was demonstrated in 1905 in the address in surgery at the British Medical Association. He reports one case of diphtheria antitoxin thus given—which he had not done before, fearing that it might be less rapidly absorbed thus than by the subcutaneous method, though this case demonstrated the contrary—and a case of gonorrheal infection with arthritis, in which the symptoms rapidly disappeared after the rectal injection of 25 c.c. of polyvalent antistreptococcus serum.

British Medical Journal, London.

May 2.

9 *Influence of Pregnancy on Certain Medical Diseases and of Certain Medical Diseases on Pregnancy. H. French.
10 *Treatment of Widespread Suppuration and Multilocular Abscesses. W. G. Spencer.
11 Consecutive Series of 34 Cases of Excision of a Portion of the Rectum for Carcinoma. C. A. Morton.
12 Case of Strangulated Femoral Hernia. D. V. Maxwell-Adams.
13 Acute Fecal Impaction in the Rectum. W. M. Robson.
14 Case of Tuberculous Leprosy. M. Mackinnon.
15 *Kala-Azar in the Royal Navy. P. W. Bassett-Smith.

9. See Abstract No. 1.

10. **Widespread Suppuration.**—Spencer describes cases of subpectoral suppuration, diffuse suppuration of the breast, abdominal abscess, and suppuration in connection with amputation, treated with long and free incision and the breaking down of septa, the sloughs and pus being removed and the entire cavity dressed with iodoform gauze. He considers short incisions and the insertion of drainage tubes in such cases as insufficient, for a fatal ending may then take place due to suppuration beyond the area drained, often with the intervention of septic pneumonia or pleurisy. Even if improvement takes place, suppuration may take place with the formation of sinuses.

15. This article appeared in the *Journal of Tropical Medicine and Hygiene*, March 16, 1908.

Medical Press and Circular, London.

April 29.

16 Medical Treatment of Phlebitis. A. Robin.
17 Ascites Relieved or Cured by Paracentesis. F. Hawkins.
18 Surgical Treatment of the Imperfectly Descended Testicle. E. M. Corner.
19 Dyspareunia in the Male Occasioned by a Condition in the Female. S. J. Aarons.
20 Henoch's Purpura and Its Association with Intussusception. H. Lett.

Clinical Journal, London.

April 29.

21 Pneumonia and Emphysema. N. Moore.

Dublin Journal of Medical Science.

April.

22 Dublin Tuberculosis Exhibition of 1907, and Lessons to be Learned from It. Sir R. Matheson.
23 *Microscopic Examination of the Viscera After the Operation of Gastrojejunostomy for Non-malignant Disease. W. J. Greer.
24 Diagnosis of Scarlet Fever. G. A. Crowley.

23. **The Viscera After Gastrojejunostomy.**—Greer reports the result of a histologic examination of the stomach and intestine in two cases of gastrojejunostomy by Murphy's button for non-malignant disease of the stomach.

Intercolonial Medical Journal of Australasia, Melbourne.

March.

25 Preventive Medicine in Victoria. W. Morrison.
26 *Preservation of Infant Life. A. J. Wood.
27 Milk in Dietary of Babies. W. H. Summons.
28 Treatment of Early Tuberculosis of Bladder. R. A. Stirling.
29 *Method of Rapidly Staining the Spirochæta Pallida. K. Hiller.
30 *Subcutaneous Injections of Sterilized Air. E. J. Roberts.

26. **Infant Life.**—Wood's article, though directed primarily to the amelioration of conditions in Victoria, discusses the subject on a broad ground. The most important factor is the milk supply, and he details the Copenhagen method of regulation by private enterprise, the work of Nathan Strauss in New York, and the methods in use in various English cities and in France. He next considers the schemes that exist in so many places in the United States for providing fresh air for babies and mothers and children generally. The subject of illegitimate children next receives attention, and he describes in detail the history of the London Foundling Hospital, which "has been repeated all over the world." He deprecates the institutional idea of trying to bring up these children in masses, and says that these children should be distributed among the general population, and not massed together in an institution. "Every child is entitled to one pair of mother's arms. No institutional ingenuity can ever take the place of maternal interest." The plan of pensioning mothers to nurse their own children is commended. He considers the need of cleanliness as regards pillows, mattresses, bathing—especially the necessity for seeing that several children are not bathed in the same water—the danger of flies, etc.; also the need of realizing the change that has come over our treatment of respiratory diseases by allowing plenty of fresh air, instead of keeping the little patients suffocating in stuffy, heated rooms,

29. **Staining the Spirochæta Pallida.**—Hiller modifies the original method by substituting heat staining for cold staining as follows: Giemsa's azure stain is used, one drop to one c.c. of distilled water. It is important to keep from contact of any foreign body which will inevitably produce a precipitation that is fatal to results. Slides are preferable to cover slips for the smear. They must be perfectly clean, washed in sodium bicarbonate solution, rinsed and placed in equal parts of absolute alcohol and ether. The smear is made in the usual manner with two slides, dried and fixed over a Bunsen burner. The dilution of the stain must be made fresh and must on no account have any precipitate. It is heated to 40 or 50 C. in an incubator, leaving the door open. The stain is poured over a smear and the slide placed on the floor of the incubator for two or three minutes. The stain is then poured off and a fresh lot applied. This is repeated three or four times and watched until it attains a dark pink color. If the staining solution should show a precipitate after it has come into contact with the film, it is poured off and the slide rapidly washed in distilled water. When the staining is deep enough it is allowed to dry and is examined with an oil immersion lens.

30. **Injections of Sterilized Air.**—Roberts, incited by Gubb's article in the *British Medical Journal*, Nov. 9, 1907 (abstracted in THE JOURNAL, Dec. 7, 1907, page 1957), has used the method of subcutaneous injection of sterilized air in six cases of sciatica, neuralgia, rheumatic lumbago, etc., with excellent results. He describes the method.

Practitioner, London.

April.

31 *Treatment of Acute Pneumonia. S. West.
32 Polycythemia in Diseases of the Heart and Lungs and During Residence at High Altitudes. F. P. Weber.

33 Injuries to the Head in Young Children. D. Drew.
34 Importance of Accurate Diagnosis and the Treatment of Fractures in the Vicinity of Joints. C. H. Fagge.
35 *Relations Between Sciatica and Diseases of the Hip Joint. W. I. Bruce.
36 *Important Points in Connection with Infant Feeding. J. Burnet.
37 Chronic Colitis and Its Surgical Treatment. P. L. Mummery.
38 Ambulatory Treatment of Fractures as Applied to Osteotomy. G. B. Buchanan.
39 Recent Literature on Arthritis. F. J. Poynton.

31. **Pneumonia.**—West says that pneumonia, though a germ disease, is not infectious in the sense that it does not spread from the sick to the healthy. He shows by a chart from the registrar general's figures the strikingly parallel course of the mortality from pneumonia and influenza between 1889 and 1905. He divides treatment into: 1, Prophylactic and preventive; 2, antibacterial and antitoxic; 3, symptomatic. Under the first heading he calls special attention to the importance of a careful mouth toilet, especially during the course of specific infectious fevers. Avoidance of cold and fatigue, especially by influenza convalescents, is enjoined. The antitoxic and antibacterial treatments are at present beyond our reach, but he hopes that before long we shall be able to have some antitoxic treatment for pneumonia. In a mild, uncomplicated case a cool room and plenty of fresh air are essential. The outdoor treatment may be suitable for hospitals, but is hardly available in most private cases. Milk, two or three pints, and two eggs, with beef tea, in the twenty-four hours, constitute the best diet. Too much milk should not be given. If thirst is complained of, acidulated water may be given or the milk should be diluted with effervescing water. A dose of castor oil or a pill of calomel and colocynth should be given at the outset; a diaphoretic mixture may be given if the skin is hot and dry. Expectorants are unnecessary. Counter-irritation or leeches are recommended for pain in the side. It is a good rule not to allow the patient to leave bed until the temperature has been normal for at least ten days. During convalescence the pericardium and pleura should be regularly examined. Hyperpyrexia calls for the cold bath, sponging, cradling or packing. A hot bath is better for children. Antipyretic drugs are to be avoided. Cardiac failure is the great risk in pneumonia. When the lungs are greatly engorged, the patient cyanosed, and the right heart over-distended, great relief may be given by bleeding, free and rapid, a pint or a pint and a half in full-blooded, healthy, florid subjects. It is contraindicated in the weakly and unhealthy. Stimulants are not ordinarily required, but may be necessary for the aged and feeble and in persons of alcoholic habits. For pain he has not found cold applications either so successful or so agreeable as leeches or counter-irritation. Hiccough is a grave symptom. Hyoscyamin and veronal, which have been highly praised, are both risky remedies. Sleeplessness, according to its cause, must be overcome by the measures recommended for removing pain or reducing temperature. In extreme cases recourse must be had to morphin, but narcotics of any kind must be used with discrimination.

In the discussion that followed the reading of West's paper at the Harveian Society of London the proper use of venesection was emphasized, and in nearly every instance the speakers eulogized the use of leeches for the relief of pain, and all but one spoke highly of the good effects of alcoholic stimulants.

35. **Sciatica.**—Bruce considers that the clinical evidence in support of the view that the origin of the pain in sciatica is in the hip joint is now established by radiographs of the joint in cases of sciatica, of which eleven are reproduced. He reports cases and concludes that if systematic examination of the hip joint by *x*-rays in intractable cases of sciatica were carried out, it would be found in many of the cases that the sciatica was present only as a symptom of disease of the joint.

36. **Breast Feeding.**—Burnet offers the following suggestions as a move in the direction of ideal infant feeding: 1. Every infant should be breast-fed unless the mother is unable to nurse or is suffering from some condition which renders it inadvisable to do so. 2. As a substitute for breast milk, scalded cow's milk is to be preferred to sterilized or other forms of "treated" milk. 3. Gain in weight should not be looked on as the chief criterion of the infant's progress. 4. Artificial foods should never be used before the tenth month, and even then they should not be regarded as essential. 5. In places where infant milk depots are a necessity only medical men should be placed in charge. The physician of such a depot must see to it that no milk is supplied to women who are able to nurse their offspring.

Annales de l'Institut Pasteur, Paris.

March, XXII, No. 3, pp. 209-288.

40 *Malta Fever in Goats in Algiers, 1907. (Fièvre méditerranéenne chez les chèvres algéroises.) E. Sergent, V. Gillot and G. Lemaire. Id. at Kleber. Id. Experimental Research. E. Sergent.
41 Normal Antibodies. (Anticorps normaux.) Nicolle.
42 Bitterness of Milk and of Cheese. (Amertume du lait et des fromages.) A. Trillat and Sauton.
43 *Experimental Research on Yaws. (Etude du pian.) C. Levaditi and L. Nattan-Larrier.
44 Research on Antirabies Serum. A. Marie.

40. **Malta Fever in Goats in Algiers.**—Sergent found that the milk of 4.2 per cent. of 609 goats agglutinated the micrococcus of Malta fever; two goats had the micrococcus in their blood. At Kleber 3.3 per cent. of 650 goats agglutinated, and a few horses, mules and dogs. The clinical experience suggests that milk can not be the only source of infection, and that direct contagion is probable. In isolated barracks substitution of condensed for goat milk has banished the disease.

43. **Yaws.**—Levaditi found it impossible to transmit yaws to monkeys.

Presse Médicale, Paris.

April 25, XVI, No. 34, 265-272.

45 Antibodies in Experimental Work. (Anticorps.) L. Hallion.

Archiv für klinische Chirurgie, Berlin.

LXXXV, No. 4, pp. 841-1068.

46 Modifications of the Suprapubic Incision. (Modificationen der Sectio alta.) Wullstein.
47 Subcutaneous Extraperitoneal Rupture of the Bladder. (Blasenrupturen.) A. Schönwerth.
48 Early Diagnosis of Acute Infectious Osteomyelitis and Total Extirpation of the Scapula. E. Koerber.
49 Pathology of the Bursa in the Shoulder. (Schultergelenkschleimbeutel.) A. Stieda.
50 *Importance of Fecal Concretions for the Origin and Course of Acute Appendicitis. P. Klemm.
51 Treatment of Fractures by Leather Extension Apparatus. (Fracturenbehandlung im Chromlederstreckverbande.) Evler.
52 Total Loss of the Scalp. T. Miyata.
53 *Autoplastic Ligation of the Intestine. (Unterbindung des Darmes.) W. L. Bogoljuboff.
54 *Prophylaxis of Surgical Infections by Preventive Immunization. G. Lerda.
55 Kidney Tumors and Retroperitoneal Tumors. (Nierentumoren und retroperitonealen Geschwülste.) J. Hagen-Torn.
56 Treatment of Retention of Testicle. (Kryptorchismus.) N. W. Kopyloff.
57 *Postoperative Pneumonia. F. Protopopow.

50. **Fecal Concretions and Appendicitis.**—Klemm has encountered seven cases of concretions in the appendix. He does not think that the presence of stones causes any specific phenomena in the appendix, but the course of inflammation is much more rapid than in the stoneless appendix.

53. **Ligation of the Intestine.**—An illustrated description is given of a means of ligating with a strip of aponeurosis, the knot being fastened with a silk suture. In experiments on dogs there was no tendency for the ligature to cut through; the walls of the intestine showed no traces of necrosis, and the lumen remained permanently occluded. This technic is said to be working with Nature, while using a substance foreign to the body is working against Nature. The strip of aponeurosis must be broad, thick and free from muscle and fat, and it must be tied tight. By this autoplastic transplantation the intestine can be artificially shut off with the least resulting inconveniences or disturbance.

54. **Preventive Immunization Against Surgical Infections.**—Lerda reports promising results from preventive inoculation with mixtures of sterilized cultures of different varieties of staphylococci and streptococci and their endotoxins in prophylaxis of surgical infections. The immunization is of a polyvalent character. Active immunization requires from eight to twelve days, and the problem now is to obtain an efficient passive immunizing serum.

57. **Postoperative Pneumonia.**—At the surgical clinic at Moscow 135 cases were observed in the last 17 years. The pneumonia occurred after local as well as after general anesthesia. Infection by the lymph and blood vessels was generally responsible; aspiration was not the cause in any instance. Lately the patients have been urged to deep breathing and to change their position frequently, as preventive measures.

Beiträge zur klinischen Chirurgie, Tübingen.

March, LVII, No. 2, pp. 231-512.

58 A Very Young Malignant Mammary Tumor. G. v. Saar.
59 *Indications for the Various Methods for Anesthesia. O. Roith.
60 Remote Results of Treatment of Tuberculosis of the Ankle by Resection with Transverse Incision Front and Rear. (Behandlung der Fusswurzeltuberkulose durch Resektion.) E. Ohse.
61 Epigastric Hernia. Lindenstein.
62 Operation for an Embolomycotic Aneurism of a Mesenteric Artery. K. Stern.
63 Incarcerated Hernia with Volvulus; Primary Enterostomy. P. Sick.
64 Postoperative Complications in the Lungs. A. v. Lichtenberg.
65 Resection of the Thorax for Old, Large Empyema. E. Bergeat.

59. **Indications for the Various Methods of Anesthesia.**—Roith concludes from study of 1,011 anesthesias that general anesthesia is still the best, the most certain and practicable of all methods. It is better to anesthetize a tranquil rather than an agitated patient. Whether this is best realized with morphin alone or with atropin or scopolamin, with alcohol, with hypnotics of the fat series, with veronal, or with combinations of these, is still undecided. This slow management of the anesthesia is inconvenient, but it has many advantages. He thinks it wrong to use spinal anesthesia when a local anesthetic would answer the purpose. Local anesthesia deserves more extensive use, he says, especially in combination with inhalation anesthesia. Preliminary treatment with sedatives is as useful for local as for general anesthesia. By combining a sedative with the anesthetic the respiratory organs are relieved. Besides their vital functions, they also have to take charge of the intake and elimination of the inhaled drug, which is an extra task, part of which can be done away with by incorporating some of the anesthetic by another route. The subcutaneous route has been used very little to date, he says, for the anesthetics derived from the fatty hydrocarbons. He adds that dilute anesthetics can pass even through the intact skin in such quantities as to induce profound anesthesia.

Berliner klinische Wochenschrift.

April 27, XLV, No. 17, pp. 821-860.

66 *Friction Sounds with Pericardial Adhesion. (Pericardiales Reiben bei Synechie des Pericards.) E. Richter.
67 Diagnosis of Sympathetic Ophthalmia. (Neuere Untersuchungsergebnisse bei der sympathischen Ophthalmie.) G. Lenz.
68 Successful Removal of Thymus Obstructing Breathing and Feeding in Young Infant. W. Hinrichs.
69 Modes of Oxidation of Sugar. (Oxydationswege des Zuckers.) G. Rosenfeld.
70 Antituberculosis Dispensaries. (Fürsorge für Tuberkulose.) Aufrecht.
71 Ultimate Results of Sanatorium Treatment. (Dauererfolge der Heilstätten.) B. Frörkel.
72 *Local Hypersusceptibility to Tuberculin. (Tuberkulin-Ueberempfindlichkeit der Conjunctiva.) S. Cohn.

66. **Pericardial Friction Sounds with Pericardial Adhesion.**—Richter reports a case of aortic incompetence, relative mitral incompetence and complete pericardial adhesion. Pericardial friction sounds were heard for a few days, afterward subsiding. The patient was presented in the clinic as a case of fresh pericarditis, but autopsy a few days later showed old total obliteration of the pericardium with no recent inflammation. The adhesions were of long standing and the friction sounds must have been produced by rubbing the blood clots against each other in the loose connective tissue of the pericardial adhesions. Relics of extravasation in the pericardial adhesions were evident at autopsy.

72. **Local Hypersensitiveness of the Conjunctiva to Tuberculin.**—Cohn has been testing the tuberculin reaction on 112 patients, and found that the conjunctiva of the non-tuberculous after a single instillation of a 1 per cent. solution of "old tuberculin" became hypersensitive. A later instillation caused a decided inflammatory reaction. The conjunctiva also displayed a tendency to attract to the spot tuberculin circulating in the blood and thus reproduce the local reaction. Both properties are strictly localized to the conjunctiva in question. At least five days are required, and the acme of hypersensitiveness is reached by the third week.

Deutsche medizinische Wochenschrift, Berlin.

April 23, XXXIV, No. 17, pp. 721-768

73 *Operative Treatment of Old Fracture of the Patella. (Neue Operationsmethode zur Heilung veralteter Kniescheibenbrüche.) J. Rotter.
74 *Physiology of the Supramarginal Gyrus. F. Kudlek.
75 Ultimate Results of Tracheotomy. W. Wolf.
76 *Bronchoscopy for Foreign Bodies. C. v. Eicken.
77 Universal Illuminator for Throat Work, etc. (Universale Demonstrations-Handgriff-Lampe für Laryngoskopie, Oesophagoskopie, etc.). H. Horn.
78 *Operative Treatment of Extensive Cancer of the Stomach. (Ausgedehnte Magencarcinome.) Riese.
79 *Ligation of Ovarian Veins in Puerperal Pyemia. (Unterbindung der Venæ spermaticæ bei puerperaler Pyämie.) K. Berkofsky.
80 The Current in the Tissues During Constriction Hyperæmia. (Gewebsstrom unter der Stauungshyperämie.) E. Joseph and L. Schlieb. Commenced in No. 16.
81 Apparatus for Lightning Treatment of Cancer. (Neues Fulgurationstrumentarium.) Abel.

73. **Treatment of Old Fractures of the Patella.**—When there is a wide space between the divided halves of the patella, Rotter cuts a long rectangular flap in the aponeurosis of the quadriceps, the base below resting on the upper fragment. This flap is then turned over downward; the anterior aspect of the flap thus lies against and over both fragments and the ligament of the patella proper, with which it is then united by a number of catgut button sutures. By this means the contractions of the quadriceps are transmitted to the lower fragment of the patella, and the extension apparatus of the knee is restored to function. The results have been satisfactory in a case reported in which this technic was applied eight months ago.

74. **Physiology of the Supramarginal Gyrus.**—Two cases are reported in which this part of the cortex met with severe trauma, the results showing that all the motor and sensory functions persisted unimpaired, but that there was complete loss of the stereognostic sense and muscle sensation in the forearm and hand. The injury and the resulting disturbances were remarkably similar in each case.

76. **Bronchoscopy for Foreign Bodies.**—Eicken has used the bronchoscope in 15 cases. It revealed the foreign body in twelve and demonstrated its absence in two others. Bronchoscopy can never be applied too early, he says, and it is never too late for its use in case of foreign bodies in the air passages.

78. **Operative Treatment of Extensive Gastric Cancer.**—Riese has performed 130 operations on the stomach, for malignant disease in 80 cases. In 24 cases extensive resection was necessary, and 17 of these patients are still in good health from seven months to nearly six years since the operation. His experience shows that it may be possible to save the patient even in advanced cases, that radical cure is possible and that survivals average longer after resection than after an anastomosis.

79. **Transperitoneal Ligation of the Ovarian Veins in Puerperal Pyemia.**—Three patients were saved out of seven on whom Berkofsky performed this operation. The others succumbed to pre-existing septic complications. Transperitoneal ligation of the ovarian veins in puerperal pyemia is an almost entirely harmless intervention, he says, so far as shock and danger of peritoneal infection are concerned. In 27 cases on record in which this was done, 15 of the patients recovered. He now excludes from this operation all cases with severe septic complications, but advocates it after failure of other measures including evacuation and rinsing of the uterus, tamponing, opening of abscesses, quinin internally (0.5 gm.-7.5 grains), intravenous injection of a silver salt and dietetic measures. There are forty-three cases on record in which the ovarian veins were ligated, either through or outside of the peritoneum, with eighteen recoveries.

Deutsche Zeitschrift für Chirurgie, Leipsic.

March, XCII, Nos. 4-6, pp. 263-584.

82 Resection of the Lower Jaw. (Methodik der Unterkieferresektionen.) E. Heller.

83 Migrating Flaps in Plastic Operation for Contracture of Hand from a Burn. (Verbrennungskontrakturen der Hand und Finger durch Wanderlappen-Fernplastik.) P. Klemm.
84 *Temporary Gastrostomy for Ulcer in Stomach or Duodenum. K. G. Lennander.
85 Ankylosis of the Spine. (Versteifung der Wirbelsäule.) M. Matsuoka.
86 Surgery of Non-parasitic Cysts in the Spleen. (Milzcysten.) E. Bircher.
87 Resection of the Stomach. Second Billroth Method. (Magenresektion.) H. Ito and W. Y. Soyesima.
88 Resection of Intestine for Gangrenous Invagination in a Child. (Darmresektion bei brandiger Darmeinstülpung.) N. Damianos.
89 Incarceration in Hernia of the Appendices epiploicæ. F. Linkenheld.
90 *Appendicitis in the Aged. E. Haim.
91 Congenital Anomalies of the Biliary Passages. (Anomalien der Gallenwege.) Dreesmann.
92 Isolated Fracture of the Transverse Processes of the Spine in the Lumbar Region. Ehrlich.
93 *Treatment of External Anthrax. (Milzbrand beim Menschen.) Schwarz.
94 *Entrance of Air into the Internal Jugular Vein During Operative Injury. A. v. Oppel.
95 Backward Dislocation of the Shoulder. (Schulter-Luxationen nach hinten.) N. Ellerbroek.
96 Pressure Cyanosis in the Head. (Entstehung der Rückstauungsblutungen am Kopf.) R. Milner.
97 Suture of the Lungs. (Lungennaht.) G. Hotz.
98 Osteoplastic Amputation of the Leg. (Neue Methode der Amputatio cruris osteoplastica.) F. L. Dumont.
99 Traumatic Laceration of the Cartilage in the Knee. (Knorpelriss im Kniegelenk.) K. Budinger.
100 Bullet Wounds of the Cervical Vertebræ. A. Hoffmann.
101 Removal of Appendix in Herniotomies. (Entfernung des Wurmfortsatzes bei der Bruchoperation.) Kruger.
102 Constant Finding of Wenzel-Gruber Fibular Epiphysis of the Tuberosity of the Fifth Metatarsal Bone in the Roentgen Picture at Age of 13 or 14. H. Iselin.
103 Radium Burns of the Skin. (Radiumverbrennung der Haut.) M. Matsuoka.
104 Adjustable Bench Support. (Verstellbares Lagerungsbänkchen.) P. Sick.

84. See abstract in THE JOURNAL, Jan. 11, 1908, page 164.

90. **Appendicitis in the Aged.**—Haim comments on the remarkably slight disturbance of the general health in appendicitis in the aged. The clinical picture generally simulates ileus. The temperature usually keeps near normal. Vomiting is frequent. The prognosis is grave, although the infection is generally a mild colon bacillus process. Treatment is the same for all ages, but the resemblance of the syndrome to ileus must not mislead the physician.

93. **Treatment of Anthrax.**—Schwarz has had occasion to treat 12 patients with external anthrax, and he here expatiates on the importance of refraining from operative measures in treatment. The main point is to protect the lesion from irritation from without. His experience shows that even severe lesions on the limbs have a favorable prognosis. Antibodies are evidently produced in adequate amounts.

94. **Entrance of Air into the Jugular Vein During Operations.**—When the peripheral part of the internal jugular vein is involved in a neoplasm the central portion generally collapses while the walls beyond are held gaping by adhesions. This combination favors aspiration of air. Oppel has resected the vein in eight cases, and states that central ligation of the vein is the best means of preventing aspiration of air and profuse hemorrhage. The patients always tolerated the ligation well; only two succumbed, both from the result of concomitant ligation of the carotid artery.

Jahrbuch für Kinderheilkunde, Berlin.

April, LXVII, No. 4, pp. 282-512.

105 Elimination of Uric Acid in Infants. (Harnsäureausscheidung im Säuglingsalter.) A. Orgler.
106 *Recurrence and Pseudorecurrence of Scarlet Fever. (Scharlach-Rezidiv und Pseudorezidiv.) E. F. Wyss.
107 Granulomatosis of Lymphatic Tissue of Pseudoleukemic Type. H. Lehndorff.
108 Euquinin in Whooping Cough. (Euchininbehandlung des Keuchhustens.) L. Slor.

106. **Recurrence of Scarlet Fever.**—Wyss reports five cases of recurrences of scarlet fever in advanced convalescence. A familial predisposition is evident, as in scarlatinal nephritis. The recurrences do not seem to render the prognosis graver. He advises isolating the new cases from those in the later stages, and especially those with otitis and other complications from those without.

Medizinische Klinik, Berlin.

April 26, IV, No. 17, pp. 609-648.

109 *Placenta Prævia. Hammerschlag.
110 Roentgen Examination of the Stomach. (Radiologische Untersuchungen des Magens.) B. Baisch.
111 Administration of Emetics. C. Bachem.
112 *What Can We Learn from Anesthesia with Part of the Circulation Cut Off and Klapp's Method of Autotransfusion? (Was lehrt uns die Narkose bei künstlich verkleinertem Kreislauf, und wie wirkt die von Klapp proponierte Methode der Autotransfusion gegen gefährliche Narkosezufälle am Tierversuche?) H. Ziegner.
113 Exophthalmic Goiter. (Morbus Basedowii.) F. Schultze. Id. Krehl. Id. Martius.
114 The Various Specific Tuberculosis Remedies. (Spezifische Tuberkulosemittel.) Schrader.
115 Lupus and Tuberculosis of Nasopharynx. O. Seifert. Commenced in No. 16.
116 Improved Technic for Gallstone Surgery. Schemmel.
117 Ocular Tuberculin Reaction in Cutaneous Tuberculosis. Reichmann.
118 Pharmacologic Tests of Atoxyl. F. Croner, E. Seligmann and F. Blumenthal.
119 *Predisposition to Disease. (Krankheitsdisposition.) E. Wieland.

109. **Treatment of Placenta Prævia.**—Hammerschlag always tells the family that the child is doomed when called to a case of placenta prævia. In his 191 cases only 16 per cent. of the children survived. He advises against tamponing except when the patient is to be carried to a hospital during hemorrhage; the colpeurynter is better to arrest the bleeding. Tamponing with the body of the child by traction on one foot always gave excellent results. He advises it when further expectant treatment is contraindicated or when delivery follows the initial bleeding. In case the cervix tears, the uterus, the laceration and the vault of the vagina should be tamponed firmly at once with scrupulous asepsis. A pad should be fastened to exert pressure on the uterine artery. This tampon should not be removed for 48 hours. It is better not to suture the tear, as all of it is seldom accessible. The cervix was torn in 5 of his cases by incorrect delivery of the head, continuous traction on the foot and excessive straining during the labor contractions. These factors should be avoided.

112. **General Anesthesia with Dammed Circulation.**—Ziegner excluded the legs from the circulation by a constricting band in experiments on rabbits and found that a smaller amount of chloroform was required for general anesthesia and that the animals recovered much more rapidly than the controls. The blood in the legs dilutes the anesthetics as from a fresh reservoir when the constricting band is taken off. Klapp has been using this autotransfusion for more than a year, and both clinical and experimental findings seem to confirm the harmlessness of the constriction and the benefits of the measure.

119. **Predisposition to Disease.**—Wieland shows how much valuable work can be done in the early recognition of a predisposition to certain affections on the part of certain organs and prompt measures to ward off injurious influences and to bring these predisposed organs up to par. Preventive medicine should prevent the breeding of weaklings. Wider enlightenment of the public in respect to the close connection between disease and inherited predisposition to disease will certainly tend to make parties contemplating marriage select their consorts with greater care, while those liable to transmit a dreaded taint may refrain from matrimony on principle. Children liable to be predisposed from parental taint should be supervised with extra care. The defective development of certain organs in the child must be borne in mind at different ages and the child be guarded against injury accordingly. The digestive tract, skin and mucous membranes in the infant are still imperfect, and also the nervous system in the infant and child. From the second to the sixth year is the age for "children's diseases," but he ascribes their prevalence more to the exceptional opportunities for infection at this age than to any special predisposition on the part of the child. The rapid growth of the bones in childhood also affords a predisposition for localization of various affections, rachitis, caries, etc. He concludes his monograph, which is printed as a supplement, with the remark that it is easier, more rational and a more grateful task to prevent disease than to cure it, and that the surest means to accomplish this is by studying and conquering the predisposition.

Monatsschrift für Geb. und Gynäkologie, Berlin.

April. XXVII, No. 4, pp. 415-554.

120 *Diagnosis and Treatment of Hydrocephalus. Hammerschlag.
121 *Immediate and Remote Results for Mother and Child of Forceps Deliveries. (Zangenoperation.) H. Gans.

122 Siren Deformities and Their Genesis. (Sirenenmissbildungen.) P. Kuliga. Commenced in No. 3.
123 Disturbances in Gait After Publotomy. (Gehstörung nach Hebosteotomie.) M. Neu.

120. Diagnosis and Treatment of Hydrocephalus in Labor Cases.—Hammerschlag reviews 22 cases of hydrocephalus from his experience. He says that there is no absolutely reliable sign, only the combination of various signs is instructive. The size of the head, the width of the sutures and fontanelles, may all be misleading. Exploratory puncture of the skull is dangerous. The diagnosis once made, puncture is generally followed at once by vigorous uterine contractions and spontaneous delivery. When interference was necessary, expression from without, extraction with the finger in the skull or seizing the scalp with toothed forceps from which a weight was suspended, have given the best results in his experience. In certain cases it may be wise to cut out some of the skull with the bone forceps and draw down one of the arms. With moderate degrees of hydrocephalus, the head in the pelvis, the forceps may sometimes be allowed, but the danger of their slipping is great.

121. Results of Forceps Deliveries for Mother and Child.—Gans reports 8,276 deliveries, with forceps in 562 cases. The dangers seem to be less than generally believed. His conclusions are that in the hands of a skilled obstetrician the forceps may prove a blessing, but that in the hands of the inexperienced the most serious consequences may result.

Wiener klinische Wochenschrift.

April 23, XXI, No. 17, pp. 607-640.

124 Antagonisms of Poisons. (Antagonismus der Gifte.) H. Meyer.
125 Bacteriologic Tests of Dentists' Treatment of Gangrene of the Pulp. B. Mayrhofer and F. Ballner.
126 Fracture of the Astragalus. (Ein Talusbruch.) F. Neugebauer.
127 Schmidt's Iodized Catgut. (Jodcatgut.) E. Szili.
128 Behavior of Human Skin in Response to Bacterial Toxic Substances. (Verhalten der menschlichen Haut gegen bakterielle Giftstoffe.) C. v. Pirquet.
129 Development of Serum Diagnosis of Syphilis. E. Weil and H. Braun.

Zeitschrift für Geb. und Gynäkologie, Stuttgart.

LXI, No. 3, pp. 449-644.

130 Ancient Illustrations on Gynecologic and Obstetric Subjects. E. Ingerslev.
131 *Pulsation in Intrafetal Portion of Umbilical Cord. (Nabelkegelpuls.) F. Ahlfeld.
132 *Children at Term and Yet Immature. (Ausgetragene und noch nicht reife Kinder.) Id.
133 Influence of Chest Measure on the Position and Presentation of the Child. (Einfluss des Brustumfangs der Neugeborenen auf Haltung und Lage des Kindes.) Id.
134 Lungs That Float Without Containing Air. (Schwimmende Lungen ohne Luftgehalt.) Id.
135 Functional Results in Thirteen Cases of Anastomosis Between Ureter and Bladder. (Ureter-Blasenanastomose.) G. Rauscher.
136 Psoriasis of the Uterus. F. Berka.
137 Anatomic Study of Spinal Anesthesia. (Rückenmarksanästhesie.) E. Gerstenberg and F. F. Hein.
138 Differentiation of Streptococci by Blood Culture Media. (Unterscheidung der Streptokokken durch Blutnährboden.) F. Freymuth.
139 Participation of Fallopian Tubes in Menstruation and Rutting Process. (Tubenbrunst und die Tuben-Menstruation.) E. Holzbach.
140 Behavior of Ovary in Osteomalacia. (Eierstocksdrüse bei Osteomalacie.) J. Wallart.
141 Simple Congenital Pemphigus of the New-Born. Id. and A. Labhardt.

131. Pulsation in the "Umbilical Cone."—Ahlfeld says that the absence of pulsation in the intrafetal part of the umbilical cord does not indicate the death of the child, and that the presence of pulsation even in profound asphyxia is an easier and more certain means of revealing persisting life than the direct movements of the heart. Pulsation here persists longer than in the cord. Once it had vanished, it never returned in his experience. It is far easier to palpate the "umbilical cone" with two fingers than to palpate the thorax to detect the heart beat.

132. Children Born at Term and Yet Immature.—Ahlfeld reports a case which shows a striking difference between the stage of development of the fetus and the duration of pregnancy. This anomaly should suggest an unsuspected kidney affection, as this was evident in his case. The latent kidney affection gave no other signs of its presence for some time.

Zentralblatt für Gynäkologie, Leipsic.

April 25, XXXII, No. 17, pp. 545-576.

142 *Extraperitoneal Cesarean Section. (Extraperitonealer Kaiserschnitt.) F. Fromme.
143 Cervical Cesarean Section. W. Rubeska.
144 Permanent Enlargement of Contracted Pelvis. (Bleibende Erweiterung des engen Beckens.) G. Schickele.
145 Application of Forceps in Abortion. (Anwendung der Abortzange.) Hammerschlag.
146 *Psychoneurotic Climacteric Phenomena. (Ausfallserscheinungen.) M. Walthard.

142. Modified Extraperitoneal Cesarean Section.—Fromme announces that his modified Cesarean section proved highly satisfactory in nine cases. He aims to shut out the peritoneum completely from the field of operation by suturing the uterine peritoneum, after incision, to the parietal sheet. He claims that this simple technic of extraperitoneal abdominal section utilizes the natural conditions while obtaining all the advantages of other technics. The incision in the median line is carried down through the uterine peritoneum, which is loosened on both sides and sutured to the parietal sheet. He applies this technic whenever there is a suspicion of possible contamination.

146. "Climacteric" Psychoneurotic Phenomena.—Walthard states that among 64 women with myoma, 54 presented various climacteric symptoms such as hot flashes, vertigo, palpitations, etc., long before the radical operation. Ten of the women were entirely free from these psychoneurotic phenomena both before and after the radical operation. These and other experiences which he relates show that the loss of genital functioning is not a direct necessary cause of these psychoneurotic, so-called climacteric phenomena. He admits that the natural and artificial menopause is liable to induce certain phenomena which attract the patient's attention, but he claims that they never assume disquieting proportions except in women who magnify their slightest sensations. These psychoneurotic phenomena may occur with normal genital findings. Psychic rather than ovarian treatment, etc., is required.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE SEXUAL QUESTION. By August Forel, M.D., Ph.D., LL.D., formerly Professor of Psychiatry at and Director of the Insane Asylum in Zurich (Switzerland). English translation by C. F. Marshall, M.D., F.R.C.S., Late Assistant Surgeon to the Hospital for Diseases of the Skin, London. Pp. 536, with illustrations. Cloth. Price, $3.00. New York: Rebman Co.

THE DEVELOPMENT OF OPHTHALMOLOGY IN AMERICA. 1800 TO 1870. By Alvin A. Hubbell, M.D., Ph.D., Professor of Clinical Ophthalmology in the University of Buffalo, New York. Cloth. Pp. 197, with illustrations. Price, $1.75. Chicago: W. T. Keener & Co., 1908.

OHIO SANITARY BULLETIN. Proceedings of the Fourth Conference of the Ohio State Board of Health, with Representatives of Local Boards of Health, held Jan. 23, 24 and 25, 1908. Pp. 109. Paper. Columbus: Office of State Board of Health.

ABDOMINAL TUBERCULOSIS. By A. Earnest Maylard, M.B., B.S., (Lond.). Surgeon to the Victoria Infirmary, Glasgow. Pp. 360, with illustrations. Cloth. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1908.

TRANSACTIONS OF THE NINETEENTH SESSION OF THE AMERICAN PEDIATRIC SOCIETY. Edited by Linnæus Edford La Fétra, M.D. Vol. XIX. Pp. 220, with illustrations. Cloth. New York: E. B. Treat & Co., 1908.

THE OPSONIC METHOD OF TREATMENT. By R. W. Allen, M.B., B.S. (Lond.), Pathologist to the Royal Eye Hospital, London, s.e. Pp. 138. Cloth. Price, $1.50. Philadelphia: P. Blakiston's Son & Co.

UNTERSUCHUNGEN ZUR KENNTNIS DER PSYCHOMOTORISCHEN BEWEGUNGSSTÖRUNGEN BEI GEISTESKRANKEN. By Dr. Karl Kleist. Pp. 171. Paper. Price, $4.50. Leipzig: Dr. Werne Klinkhardt.

NUOVA CLASSIFICAZIONE DEI DELINQUENTI. By Dott. José Ingegnieros, Professor all, Università di Buenos Aires. Pp. 48. Paper. Milano-Palermo-Napoli: Remo Sandron, 1907.

INDEX TO THE TRANSACTIONS OF THE AMERICAN LARYNGOLOGICAL, RHINOLOGICAL AND OTOLOGICAL SOCIETY FROM 1896 TO 1907 INCLUSIVE. Pp. 43. Cloth. Published by the Society, 1908.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. New Series. Vol. X. Pp. 229, with illustrations. Paper. Boston: Office of *The Journal of Medical Research*.

THE MOTHER'S YEAR BOOK. By Marion Foster Washburne, Author of "Family Secrets," etc. Pp. 259. Cloth. Price, $1.25. New York: The MacMillan Co., 1908.